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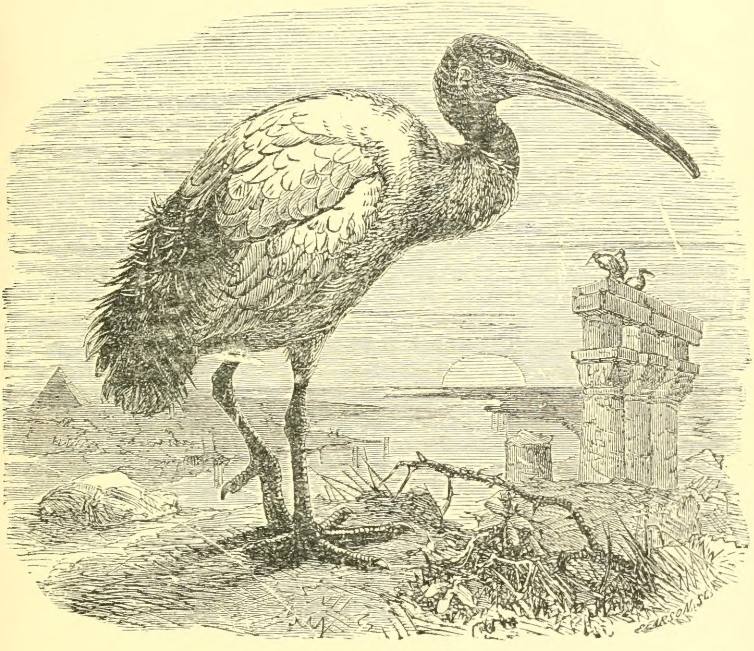
QUARTERLY JOURNAL OF ORNITHOLOGY.

EDITED BY
PHILIP LUTLEY SCLATER, D.Sc., F.R.S.,
AND
A. H. EVANS, M.A., F.Z.S.



VOL. V. 1911.

NINTH SERIES.

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PREFACE.

The Two-hundred-and-sixth Number of 'The Ibis' completes the Fifty-third Volume of our Journal, leaving only one more volume required to finish the Ninth Series. Few peridicals, we believe, devoted to special subjects have lasted for so long a time, though we must not forget that the 'Journal für Ornithologie' started in 1853. The British Ornithologists' Union is fortunate in increasing the number of its Members every year and consequently in augmenting the resources of its Journal.

The most important events connected with our branch of Science that have taken place during the past year have been the return of the Expedition sent under the auspices of the British Ornithologists' Union to New Guinea, and the donation of the "Alexander" Collection to the British Museum. We have duly chronicled these events in the pages of 'The Ibis,' but may repeat that the Alexander Collection (see above, p. 187) contains about 4,000 skins, among which are the types of all the many African species which Alexander discovered and described, and that the Collection made by the Naturalists of the New Guinea Expedition contains about 2,300 skins, which are now being carefully examined and determined at South Kensington.

P. L. S.
A. H. E.

Offices of the
Zoological Society of London,
Regent's Park, London, N.W.,
October 1st, 1911.

LIST OF THE MEMBERS

OF THE

BRITISH ORNITHOLOGISTS' UNION.

1911.

[An asterisk indicates an Original Member. It is particularly requested that Members should give notice to the Secretary of the Union of any error in their addresses or descriptions in this List, in order that it may be corrected.]

Date of Election.

1911. Alexander, Christopher James; 3 Mayfield Road, Tunbridge Wells, Kent.

1911. Alexander, Horace Gundry; King's College, Cambridge; and 3 Mayfield Road, Tunbridge Wells, Kent.

1888. Aplin, Oliver Vernon; Stonehill House, Bloxham, Oxon.

1896. Archibald, Charles F.; 2 Darnley Road, West Park, Leeds, Yorks.

5 1896. Arrigoni degli Oddi, Count Ettore, Professor of Zoology, University, Padua; and Ca' oddo, Monselice, Padua, Italy.

1901. Arundel, Major Walter B., F.Z.S.; High Ackworth, Pontefract, Yorks.

1901. Ashby, Herbert; Broadway House, Brookvale Road, Southampton.

1908. Ashworth, Dr. John Wallwork, M.R.C.S., L.R.C.P., F.R.G.S., F.G.S.; Thorne Bank, Heaton Moor, near Stockport, Cheshire.

1897. Astley, Hubert Delaval, M.A., F.Z.S.; Benham Park, Newbury, Berks.

10 1885. Backhouse, James, F.Z.S.; Daleside, Scarborough, Yorks.

1904. Bahr, Philip Heinrich, M.A., M.B., M.R.C.S., L.R.C.P., F.Z.S.; Stockhurst Farm, Oxted, Surrey.

1901. Bailward, Col. Arthur Churchill, F.Z.S. (R.F.A.); 64 Victoria Street, S.W.

1892. Baker, E. C. Stuart, F.Z.S.; c/o Messrs. H. S. King & Co., 65 Cornhill, E.C.; and Deputy Inspector-General of Police, Dacca, India.

1901. Baker, John C., M.B., B.A.; Ceely House, Aylesbury, Bucks.

15 1908. Ball, Crispin Alfred (Sudan Civil Service); Geteina, White Nile Province, Sudan.

Date of
Election.

1889. Balston, Richard James, F.Z.S.; Springfield, Maidstone.

1906. Bannerman, David A., B.A.; 11 Washington House, Basil Street, S.W.

1890. Barclay, Francis Hubert, F.Z.S.; The Warren, Cromer, Norfolk.

1885. Barclay, Hugh Gurney, F.Z.S.; Colney Hall, Norwich.

20 1899. Barrett-Hamilton, Major Gerald E. H., F.Z.S.; Kilmanock, Campile, Waterford, Ireland.

1881. Barrington, Richard Manliffe, LL.D.; Fassaroe, Bray, Co. Wicklow, Ireland.

1903. Bartels, Max.; Pasir Datar, Halte Tjisaät (Preanger), Java, Dutch East Indies.

1906. Bates, George L., C.M.Z.S.; Bitye, Ebolowa, Kamerun, West Africa.

1908. Beaumont, Walter Ibbotson, F.Z.S.; 1 Osborne Place, Plymouth.

25 1902. Becher, Harry, C.E.; Strathmore,, Burnham-on-Crouch.

1910. Beeston, Harry; Sunnymead, South Street, Havant, Hants.

1897. Benson, John; The Post Office, Vancouver, B.C.

1897. Berry, William, B.A., LL.B.; Tayfield, Newport, Fifeshire.

1907. Bethell, The Hon. Richard; 30 Hill Street, Mayfair, W.

30 1907. Bickerton, William, F.Z.S.; The Hawthorns, Marlborough Road, Watford, Herts.

1880. Bidwell, Edward; 1 Trig Lane, Upper Thames Street, E.C.

1892. Bird, The Rev. Maurice C. H., M.A.; Brunstead Rectory, Stalham, S.O., Norfolk.

1891. Blaauw, Frans Ernst, C.M.Z.S.; Gooilust, 'sGraveland, Hilversum, Noord-Holland.

1903. Blathwayt, The Rev. Francis Linley, M.A.; Doddington Rectory, Lincoln.

35 1897. Bonar, The Rev. Horatius Ninian, F.Z.S.; Saltoun, Pencaitland, N.B.

1905. Bone, Henry Peters, F.Z.S.; 28 Adelaide Crescent, Brighton.

1894. Bonhote, John Lewis, M.A., F.L.S., F.Z.S.; Gade Spring Lodge, Hemel Hempstead, Herts. (*Secretary & Treasurer.*)

1906. Boorman, Staines; Heath Farm, Send, Woking, Surrey.

1898. Booth, George Albert; 6 North Road, Preston; and Fern Hill, Grange-over-Sands, Lancs.

40 1904. Booth, Harry B.; Ryhill, Ben Rhydding, *viâ* Leeds, Yorks.

1907. Boraston, John Maclair; Ingleside, Stretford, near Manchester.

1908. Borrer, Clifford Dalison; 6 Durham Place, Chelsea, S.W.

Date of
Election.

1910. Brabourne, Wyndham Wentworth, Lord, F.Z.S.; 8 Talgarth Mansions, Talgarth Road, West Kensington, W.

1895. Bradford, Sir John Rose, K.C.M.G., M.D., D.Sc., F.R.S., F.Z.S; 8 Manchester Square, W.

45 1902. Bridgeman, Commdr. The Hon. Richard O. B., R.N.; Weston Park, Shifnal, Salop.

1909. Briggs, Thomas Henry, M.A., F.E.S.; Rock House, Lynmouth, R.S.O., N. Devon.

1902. Bristowe, Bertram Arthur; The Cottage, Stoke D'Abernon, Surrey.

1885. Brockholes, William Fitzherbert; Claughton-on-Brock, Garstang, Lancashire.

1908. Brook, Edward Jonas, F.Z.S.; Hoddam Castle, Ecclefechan, N.B.

50 1890. Brooke, Harry Brinsley; 33 Egerton Gardens, S.W.

1899. Brooke, John Arthur, J.P.; Fenay Hall, Huddersfield; and Fearn Lodge, Ardgay, Ross-shire.

1900. Bruce, William Speirs, LL.D., F.R.S.E.; Scottish Oceanographical Laboratory, Surgeon's Hall, Edinburgh.

1907. Buckley, Charles Mars; 4 Hans Crescent, S.W.

1906. Bucknill, The Hon. John Alexander Strachey, M.A., F.Z.S.; Kioshly Chiftlik, Nicosia, Cyprus; and Hylands House, Epsom, Surrey.

55 1895. Bulgaria, H.M. Ferdinand, King of, F.Z.S.; The Palace, Sofia, Bulgaria.

1908. Bunyard, Percy Frederick, F.Z.S.; 57 Kidderminster Road, Croydon, Surrey.

1907. Butler, Arthur Gardiner, Ph.D., F.L.S., F.Z.S.; 124 Beckenham Road, Beckenham, Kent.

1899. Butler, Arthur Lennox, F.Z.S.; Superintendent of Game Preservation, Sudan Government, Khartum, Sudan.

1884. Butler, Lieut.-Col. E. A.; Winsford Hall, Stokesby, Great Yarmouth.

60 1900. Buttress, Bernard A. E.; Craft Hill, Dry Drayton, Cambridge.

1905. Buxton, Anthony; Knighton, Buckhurst Hill, Essex.

1884. Buxton, Geoffrey Fowell, F.Z.S.; Dunston Hall, Norwich.

1896. Cade, Francis J.; Mosborough, The Park, Cheltenham.

1889. Cameron, Ewen Somerled, F.Z.S.; Fallon, Montana, U.S.A.

Date of
Election.

65 1896. Cameron, Capt. James S.; (2nd Bn. Royal Sussex Regt.) Low Wood, Bethersden, Ashford, Kent.

1888. Cameron, John Duncan; Low Wood, Bethersden, Ashford, Kent.

1892. Campbell, Charles William, C.M.G., C.M.Z.S., H.B.M. Chinese Consular Service; British Legation, Peking, China.

1909. Campbell, David Callender, J.P.; Templemore Park, Londonderry, Ireland.

1909. Carroll, Clement Joseph; Rocklow, Fethard, Co. Tipperary, Ireland.

70 1904. Carruthers, Alexander Douglas M.; Little Munden Rectory, Ware, Herts.

1908. Carter, Thomas; Wensleydale, Broome Hill (Great Southern Railway), Western Australia.

1890. Cave, Charles John Philip, M.A., F.Z.S.; Ditcham Park, Petersfield, Hants.

1894. Chance, A. Macomb, M.A.; c/o E. P. Chance, Esq., Lawnside, Edgbaston, Birmingham.

1884. Chapman, Abel, F.Z.S.; Houxty, Wark-on-Tyne, Northumberland.

75 1882. Chase, Robert William; Pool Hall, Wishaw, near Birmingham.

1908. Cheesman, Robert E.; Tilsden, Cranbrook, Kent.

1897. Cholmley, Alfred John, F.Z.S.; Place Newton, Rillington, Yorks.

1910. Chubb, Charles, F.Z.S.; British Museum (Natural History), Cromwell Road, S.W.

1904. Clarke, Capt. Goland van Holt, D.S.O., F.Z.S.; Chilworth Court, Romsey, Hants.

80 1889. Clarke, Lt.-Col. Stephenson Robert, F.Z.S.; Borde Hill, Cuckfield, Sussex.

1880. Clarke, William Eagle, F.L.S.; Royal Scottish Museum, Edinburgh.

1904. Cochrane, Commdr. Henry Lake, R.N.; Junior United Service Club, Charles Street, St. James's, S.W.

1898. Cocks, Alfred Heneage, M.A., F.Z.S.; Poynetts, Skirmett, near Henley-on-Thames.

1895. Coles, Richard Edward; Ashley Arnewood, New Milton, S.O., Hants.

85 1911. Collett, Anthony Keeling; 5 Stone Buildings, Lincoln's Inn, W.C.

Date of Election.

1904. **Collier, Charles**, F.Z.S.; Bridge House, Culmstock, Devon; and Windham Club, St. James' Square, S.W.

1909. **Congreve, William Maitland** (Lieut. R.A.); Breinton House, near Hereford.

1910. **Conigrave, Charles Price**, F.R.G.S., R.A.O.U.; Department of Agriculture, Perth, Western Australia.

1888. **Cordeaux**, Major **William Wilfrid**, (late 21st Lancers), Hopebourne, Harbledown, Canterbury.

90 1896. **Cowie**, Col. **Alexander Hugh**, F.Z.S.; Uddens House, Wimbourne, Dorset.

1894. **Crewe**, Sir **Vauncey Harpur**, Bt.; Calke Abbey, Derby.

1898. **Crossman, Alan F.**, F.Z.S.; Cumminin Station, near Doodlakine, Western Australia.

1903. **Crowley, John Cyril**, M.A.; 5 Beech House Road, Croydon.

1898. **Crowley, Reginald Alwyn**; Bernards, Vines Cross, Sussex; and 22 High Street, Croydon.

95 1899. **Curtis, Frederick**, F.R.C.S.; Lyndens, Redhill, Surrey.

1877. **Dalgleish, John J.**; Brankston Grange, Bogside Station, Alloa, N.B.

1896. **Danford**, Capt. **Bertram W. Y.**, R.E.; Bermuda.

1897. **Darnley, Ivo Francis Walton**, Earl; Cobham Hall, Gravesend; and Clifton Lodge, Athboy, Co. Meath.

1883. **Davidson, James**, F.Z.S.; 32 Drumsheugh Gardens, Edinburgh.

100 1908. **Davies, Claude G.**; 'E' Squadron, Cape Mounted Riflemen, Matatiele, E. Griqualand, South Africa.

1905. **Davis, Kenneth James Acton**; Julian Hill, Harrow; and King's College, Cambridge.

1909. **Delmé-Radcliffe**, Capt. **Alfred** (105th Maratha Light Infantry); Satara, Deccan, India; and c/o Messrs. Cox & Co., 16 Charing Cross, S.W.

1902. **Dent, Charles Henry**; c/o Messrs. Barclay & Co. Ltd., Darlington, Durham.

1891. **De Vis, Charles W.**; Queensland Museum, Brisbane, Australia; and care of Mr. B. Quaritch, 11 Grafton Street, W.

105 1893. **De Winton, William Edward**, F.Z.S.; Southover Hall, Burwash, Sussex.

1896. **Dobbie, James Bell**, F.R.S.E., F.Z.S.; 12 South Inverleith Terrace, Edinburgh.

Date of Election

1889. Dobie, William Henry, M.R.C.S.; 2 Hunter Street, Chester.

1911. Dodsworth, Pelham Theobald Landale, F.Z.S.; Carlton Grove, Simla, S.W., (Punjab), India.

1904. Dorrien-Smith, Thomas Algernon, J.P., D.L.; Tresco Abbey, Scilly Isles.

110 1904. Drake-Brockman, Dr. Ralph Evelyn, M.R.C.S., L.R.C.P., F.Z.S.; Cheriton, Wellington Road, Bournemouth.

1865. Dresser, Henry Eeles, F.L.S., F.Z.S.; 44 Hornton Court, Kensington, W.

1896. Drewitt, Frederic Dawtrey, M.A., M.D., F.Z.S.; 14 Palace Gardens Terrace, Kensington, W.

1890. Drummond-Hay, Col. James A. G. R.- (Coldstream Guards); Seggieden, by Perth, N.B.

1904. Duckworth, George Herbert; Philpots, East Grinstead, Sussex.

115 1878. Durnford, W. Arthur, J.P.; Elsecar, Barnsley, Yorks.

1905. Dutton, The Hon. and Rev. Canon Frederick George; Bibury, Fairford, Gloucestershire.

1903. Earle, Edward Vavasour; 4 Broad Street Place, E.C.

1895. Elliot, Edmund A. S., M.R.C.S.; Woodville, Kingsbridge, South Devon.

1884. Elliott, Algernon, C.I.E.; 16 Belsize Grove, Hampstead, N.W.

120 1902. Ellison, The Rev. Allan, M.A.; Althorpe Rectory, Doncaster, Yorks.

1904. Elton, Henry Brown, B.A., M.B., B.C., M.R.C.S., L.R.C.P.; Glenview, Llandovery, South Wales.

1866. Elwes, Henry John, F.R.S., F.Z.S.; Colesborne, Cheltenham.

1879. Evans, Arthur Humble, M.A., F.Z.S.; 9 Harvey Road, Cambridge. (*Joint Editor.*)

1888. Evans, William, F.R.S.E.; 38 Morningside Park, Edinburgh.

125 1905. Ewen, Guy L'Estrange (King's Messenger); St. James's Club, Piccadilly, W.

1892. Fairbridge, William George; 141 Long Market Street, Capetown, South Africa.

1909. Fanshawe, Capt. Richard D. (late Scots Guards); Adbury Holt, Newbury, Berks.

1894. Farquhar, Rear-Admiral Arthur Murray, C.V.O.; Granville Lodge, Aboyne, Aberdeenshire, N.B.

Date of Election.

1898. **Farquhar**, Capt. **Stuart St. J.**, R.N.; Naval & Military Club, Piccadilly, W.

130 1873. **Feilden**, Col. **Henry Wemyss**, C.B., C.M.Z.S.; Burwash, Sussex; and Junior United Service Club, S.W.

1901. **Finlinson**, **Horace W.**, F.Z.S.; 5 Rosamond Road, Bedford.

1892. **Finn**, **Frank**, B.A., F.Z.S.; 36 St. George's Road, Regent's Park, N.W.

1902. **Flower**, Capt. **Stanley Smyth**, F.Z.S.; Kedah House, Zoological Gardens, Giza, Egypt.

1884. **Forbes**, **Henry Ogg**, LL.D., F.Z.S.; 46 Leinster Square, Bayswater, W.

135 1903. **Foster**, **Nevin Harkness**; Hillsborough, Co. Down, Ireland.

1880. **Foster**, **William**; 39 Colville Gardens, Bayswater, W.

1887. **Fowler**, **William Warde**, M.A.; Lincoln College, Oxford.

1865. **Fox**, The Rev. **Henry Elliott**, M.A.; The Croft, Lytton Grove, Putney Hill, S.W.

1881. **Freke**, **Percy Evans**; Southpoint, Limes Road, Folkestone.

140 1895. **Frohawk**, **Frederick William**; Ashmount, Rayleigh, Essex.

1909. **Frost**, **William Edward**, J.P.; Ardvreck, Crieff, Perthshire.

1881. **Gadow**, **Hans**, Ph.D., F.R.S., F.Z.S.; University Museum of Zoology, Cambridge.

1886. **Gainsborough**, **Charles William Francis**, Earl of; Exton Park, Oakham, Rutland.

1907. **Gandolfi**, **Alfonso Otho Gandolfi-Hornyold**, Duke, Ph.D.; Blackmore Park, Hanley Swan, Worcestershire.

145 1900. **Garnett**, **Charles**; 9 Cleveland Gardens, Hyde Park, W.; and New University Club, St. James's Street, S.W.

1892. **Gerrard**, **John**, Government Inspector of Mines; Worsley, near Manchester, Lancs.

1902. **Gibbins**, **William Bevington**, F.Z.S.; Ettington, Stratford-on-Avon, Warwickshire.

1879. **Gibson**, **Ernest**, F.L.S., F.Z.S., F.R.G.S.; 25 Cadogan Place, S.W.; and c/o Messrs. Fraser, Stodart & Ballingall, 16 Castle Street, Edinburgh.

1902. **Gillman**, **Arthur Riley**; Heath Vale, Farnham, Surrey.

150 1904. **Gilroy**, **Norman**; 95 Claremont Road, Forest Gate, E.; and Seaford, Sussex.

1903. **Gladstone**, **Hugh Steuart**, M.A., F.Z.S.; Capenoch, Thornhill, Dumfriesshire.

Date of Election.

1889. Glenconner, Edward Priaulx, Lord, M.A, F.Z.S.; 34 Queen Anne's Gate, S.W.; and The Glen, Innerleithen, Peeblesshire, N.B.

1908. Godman, Capt. Edward Shirley (2nd Dorset Regiment); Muntham, Horsham, Sussex.

* 1858. Godman, Frederick DuCane, D.C.L., F.R.S., F.Z.S.; 45 Pont Street, S.W.; and South Lodge, Horsham, Sussex. (*President.*) (*Gold Medallist.*)

155* 1858. Godman, Percy Sanden, B.A., C.M.Z.S.; Muntham, Horsham, Sussex. (*Gold Medallist.*)

1906. Goodall, Jeremiah Matthews, F.Z.S.; 52 Oxford Gardens, North Kensington, W.

1901. Goodchild, Herbert; 66 Gloucester Road, Regent's Park, N.W.

1900. Goodfellow, Walter, F.Z.S.; Mont Fleuri, Southbourne Grove, Bournemouth, Hants.

1906. Gordon, Seton Paul, F.Z.S.; Auchintoul, Aboyne, Aberdeenshire, N.B.

160 1899. Gould, Francis Herbert Carruthers, F.Z.S.; Matham Manor House, East Molesey, Surrey.

1895. Grabham, Oxley, M.A.; The Museum, York.

1909. Grant, Claude Henry Baxter, F.Z.S.; 66 Hurlingham Road, Hurlingham, S.W.

1909. Grey, The Rt. Hon. Sir Edward, Bt., P.C., F.Z.S.; Fallodon, Christon Bank, R.S.O., Northumberland.

1906. Griffith, Arthur Foster; 59 Montpellier Road, Brighton.

165 1885. Guillemard, Francis Henry Hill, M.A., M.D., F.Z.S.; Old Mill House, Trumpington, Cambridge.

1908. Gurney, Gerard Hudson, F.Z.S., F.E.S.; Keswick Hall, Norwich, Norfolk.

1870. Gurney, John Henry, F.Z.S.; Keswick Hall, Norwich; and Athenæum Club, Pall Mall, S.W.

1896. Gurney, Robert, F.Z.S.; Ingham Old Hall, Stalham, Norfolk.

1890. Gwatkin, Joshua Reynolds Gascoign; The Manor House, Potterne, Devizes, Wilts.

170 1891. Haigh, George Henry Caton; Grainsby Hall, Great Grimsby, Lincolnshire.

1887. Haines, John Pleydell Wilton; 17 King Street, Gloucester.

1898. Hale, The Rev. James Rashleigh, M.A.; Boxley Vicarage, Maidstone, Kent.

1905. Hamerton, Capt. Albert Edward, D.S.O., R.A.M.C., F.Z.S.; c/o Messrs. Holt & Co., 3 Whitehall Place, S.W.

Date of
Election

1904. Harington, Major Herbert Hastings; 92nd Punjabis, Mandalay, Upper Burma; and c/o Messrs. Thos. Cook & Sons, Ludgate Circus, E.C.

175 1900. Harper, Edmund William, F.Z.S.; c/o Mombasa Pharmacy, Mombasa, British East Africa.

1900. Harris, Henry Edward; 2 St. Aubyn's Mansions, Hove, Sussex.

1893. Hartert, Ernst J. O., Ph.D., F.Z.S.; The Zoological Museum, Tring, Herts.

1868. Harting, James Edmund, F.L.S., F.Z.S.; Edgewood, Weybridge, Surrey.

1893. Hartmann, William; Milburn, Esher, Surrey.

180 1899. Harvey, Major Robert Napier, R.E.; Broxhead Cottage, Bordon Camp, Hants.

1873. Harvie-Brown, John A., F.R.S.E., F.Z.S.; Dunipace, Larbert, Stirlingshire, N.B.

1900. Hasluck, Percy Pedley Harford; The Wilderness, Southgate, N.

1902. Hatfeild, John Randall; Edlington Hall, Horncastle, Lincolnshire.

1898. Hawker, Richard Macdonnell, F.Z.S.; Bath Club, Dover Street, W.; and c/o Messrs. Dalgety & Co., 96 Bishopsgate Street Within, E.C.

185 1905. Hawkshaw, John Clarke, M.A., M.I.C.E., F.Z.S., F.G.S.; Hollycombe, Liphook, Hants; and 33 Great George Street, Westminster, S.W.

1905. Headley, Frederick Webb, M.A., F.Z.S.; Haileybury College, Herts.

1907. Hedges, George Mitchell; 42 Kensington Park Gardens, W.

1905. Hellmayr, Carl E.; Wittelsbacherstrasse 2 III., Munich, Germany.

1902. Hett, Geoffrey Seccombe, M.B., F.Z.S.; 8 Wimpole Street, W.

190 1899. Heywood, Richard, F.Z.S.; Narside, Narborough, Swaffham, Norfolk.

1900. Hills, John Waller,; Queen Anne's Mansions, Westminster, S.W.; and Highhead Castle, Carlisle.

1884. Holdsworth, Charles James, J.P.; Fernhill, Alderley Edge, Cheshire.

1905. Hopkinson, Emilius, M.B., D.S.O., F.Z.S.; 45 Sussex Square, Brighton, Sussex; and Medical Officer, Gambia, West Africa.

Date of Election.

1904. HORSBRUGH, Major BOYD ROBERT, F.Z.S. (Army Service Corps); Morristown Biller, Newbridge, Co. Kildare, Ireland.

195 1888. HORSFIELD, HERBERT KNIGHT; Crescent Hill, Filey, Yorks.

1895. HOWARD, HENRY ELIOT, F.Z.S.; Clarelands, near Stourport, Worcestershire.

1881. HOWARD, ROBERT JAMES; Shearbank, Blackburn, Lancashire.

1911. HUDSON, EDWARD; 15 Queen Anne's Gate, S.W.

1911. HUDSON, REGINALD; 16 Warwick Road, Stratford-on-Avon.

200 1869. HUME, ALLAN OCTAVIAN, C.B., C.S.I., F.Z.S.; The Chalet, 4 Kingswood Road, Upper Norwood, S.E.

1890. HUNTER, HENRY CHARLES VICARS, F.Z.S.; Abermarlais Park, Llangadock, Carmarthenshire.

1901. INGRAM, COLLINGWOOD, F.Z.S.; Sussex Mansions, Westgate-on-Sea, Kent.

1902. INNES BEY, Dr. WALTER FRANCIS; Curator of the Zoological Museum, School of Medicine, Cairo, Egypt.

1888. JACKSON, FREDERICK JOHN, C.B., C.M.G., F.L.S., F.Z.S.; Entebbe, Uganda, British East Africa; and The Red House, Aldeburgh, Suffolk.

205 1892. JAMES, HENRY ASHWORTH, F.Z.S.; Hurstmonceux Place, Hailsham, Sussex.

1896. JESSE, WILLIAM, B.A., F.Z.S.; Meerut College, Meerut, India.

1889. JOHNSON, FREDERICK PONSONBY, B.A., J.P., D.L.; Castlesteads, Brampton, Cumberland.

1891. JOHNSTON, Sir HARRY HAMILTON, G.C.M.G., K.C.B., F.Z.S.; St. John's Priory, Poling, near Arundel, Sussex.

1905. JOHNSTONE, EDWIN JAMES, F.Z.S.; Burrswood, Groombridge, Sussex; and Junior Carlton Club, Pall Mall, S.W.

210 1900. JONES, Major HENRY, F.Z.S. (late 62nd Regt.); East Wickham House, Welling, Kent.

1909. JONES, Staff-Surgeon KENNETH HURLSTONE, M.B., Ch.B., F.Z.S., R.N.; The Manor House, St. Stephen's, Canterbury, Kent.

1899. JOURDAIN, The Rev. FRANCIS CHARLES ROBERT, M.A.; Clifton Vicarage, near Ashburne, Derbyshire.

1902. JOY, NORMAN HUMBERT, M.R.C.S., L.R.C.P.; Thurlestone, Bradfield, near Reading, Berks.

1880. KELHAM, Col. HENRY ROBERT, C.B. (late Highland Light Infantry); Army and Navy Club, Pall Mall, S.W.

Date of Election.

215 1894. Kelsall, Major Harry Joseph, R.A.: c/o J. W. Jameson, Esq., Langham Lea, Bowdon, Cheshire.

1897. Kelsall, The Rev. John Edward, M.A.; Milton Rectory, New Milton, Hants.

1904. Kelso, John Edward Harry, M.D.; Holmwood, Hayling Island, Hants.

1891. Kerr, John Graham, F.R.S., F.Z.S., Regius Professor of Zoology, 9 The University, Glasgow.

1895. Kingsford, William Edward; Cairo, Egypt.

220 1902. Kinnear, Norman Boyd; Bombay Natural History Society, 6 Apollo Street, Bombay, India.

1910. Kloss, Cecil Boden, F.Z.S., F.R.A.I.; Curator of the Perak State Museum, Taiping, Perak, Federated Malay States.

1882. Knubley, The Rev. Edward Ponsonby, M.A.; Steeple Ashton Vicarage, Trowbridge, Wilts.

1900. Koenig, Dr. Alexander Ferdinand; Coblenzer-Strasse 164, Bonn, Germany.

1906. Kollibay, Paul; Ring 12 I, Neisse, Germany.

225 1892. Laidlaw, Thomas Geddes; Bank of Scotland, Duns, N.B.

1884. Langton, Herbert; St. Moritz, 61 Dyke Road, Brighton.

1881. Lascelles, The Hon. Gerald William, F.Z.S.; The King's House, Lyndhurst, Hants.

1892. La Touche, John David Digues, C.M.Z.S.; c/o Custom House, Chinkiang, China (*viâ* Siberia).

1910. Lees, T. O. Hastings, M.A., F.Z.S.; 4 Osnaburgh Terrace, Regent's Park, N.W.

230 1905. Legge, The Hon. Gerald; c/o Messrs. Hoare, 37 Fleet Street, E.C.

1906. Leigh, John Hamilton, F.Z.S.; Matcham's Park, Ringwood, Hants.

1898. Le Souëf, Dudley, C.M.Z.S.; Director of the Zoological Gardens, Melbourne, Victoria, Australia.

1868. Le Strange, Hamon, F.Z.S.; Hunstanton Hall, King's Lynn, Norfolk; and 1 Eaton Place, Eaton Square, S.W.

1889. Leyland, Christopher John, F.Z.S.; Haggerston Castle, Beal, Northumberland.

235 1897. Lilford, John, Lord, F.Z.S.; Lilford Hall, Oundle, Northants.

1909. Lings, George Herbert; Barcicroft, Burnage, Didsbury, Manchester.

1897. Lodge, George Edward, F.Z.S.; The Studios, 5 Thurloe Square, S.W.

Date of Election.

1908. Long, Sydney Herbert, M.D.; 37 St. Giles Street, Norwich, Norfolk.

1904. Lowe, Dr. Percy R., B.A., M.B.; c/o Sir Frederic Johnstone, Bt., The Hatch, Windsor, Berks.

240 1889. Loyd, Lt.-Col. Arthur Purvis, F.Z.S. (late 21st Hussars); Hurst Lodge, Sunningdale, Berks.

1902. Lucas, Auberon Thomas, Lord, F.Z.S.; 33 Grosvenor Road, S.W.

1877. Lumsden, James, F.Z.S.; Arden House, Arden, Dumbartonshire, N.B.

1908. Lyell, Charles Henry, ; 48 Eaton Place, S.W.

1904. Lynes, Commander Hubert, R.N.; Garthmeilio, Corwen, North Wales.

245 1900. McConnell, Frederick Vavasour; Camfield Place, Hatfield, Herts.

1905. McGregor, Peter James Colquhoun; H.B.M. Consul, British Consulate, Erzerum, Turkey in Asia.

1897. McLean, John Chambers; Te Karaka, Gisborne, New Zealand.

1899. Macmillan, George Augustin, F.Z.S.; 27 Queen's Gate Gardens, S.W.

1906. Macmillan, William Edward Frank; 27 Queen's Gate Gardens, S.W.

250 1909. Macnaghten, Norman Donnelly; Ministry of the Interior, Cairo, Egypt.

1894. Macpherson, Arthur Holte, F.Z.S.; 21 Campden Hill Square, Kensington, W.

1906. Magrath, Major Henry Augustus Frederick; c/o Messrs. H. S. King & Co., 9 Pall Mall, S.W.

1907. Mann, Thomas Hugh, F.Z.S.; Trulls Hatch, Rotherfield, Sussex.

1908. Maples, Stuart; Lytton House, Stevenage, Herts.

255 1904. Mapleton, Harvey William, B.A.; Weare, Axbridge, Somerset.

1894. Marshall, Archibald McLean, F.Z.S.; Great Chitcombe, Brede, Sussex.

1894. Marshall, James McLean, F.Z.S.: Bleaton Hallet, Blairgowrie, Perthshire, N.B.

1897. Mason, Col. Edward Snow; 10 Lindum Terrace, Lincoln.

Date of Election.

1898. Massey, Herbert; Ivy Lea, Burnage, Didsbury, Manchester.

260 1907. Mathews, Gregory Macalister, F.L.S., F.Z.S.; Langley Mount, Watford, Herts.

1908. Mathews, Richard Owen; Langley Mount, Watford.

1896. Maxwell, The Rt. Hon. Sir Herbert Eustace, Bt., P.C., F.R.S.; Monreith, Whauphill, Wigtownshire, N.B.

1883. Meade-Waldo, Edmund Gustavus Bloomfield, F.Z.S.; Stonewall Park, Edenbridge, Kent.

1899. Meinertzhagen, Capt. Richard, F.Z.S. (Royal Fusiliers); c/o Messrs. Cox & Co., 16 Charing Cross, S.W.

265 1886. Millais, John Guille, F.Z.S.; Compton's Brow, Horsham, Sussex.

1903. Mills, The Rev. Henry Holroyd, M.A., F.Z.S.; The Rectory, St. Stephen-in-Brannel, Grampound Road, Cornwall.

1879. Mitchell, Frederick Shaw; Hornshaws, Millstream, Vancouver Island, British Columbia.

1901. Mitchell, P. Chalmers, M.A., D.Sc., LL.D., F.R.S., F.L.S., F.Z.S.; Secretary to the Zoological Society of London, Regent's Park, N.W.

1908. Momber, A. R.; Magdalene College, Cambridge.

270 1898. Monro, Horace Cecil, C.B.; Queen Anne's Mansions, Queen Anne's Gate, S.W.

1906. Moore, Lt.-Col. Cyril H.; Regimental Accountant's Office, Colchester, Essex.

1886. Muirhead, George, F.R.S.E.; Speybank, Fochabers, Morayshire.

1893. Mullens, Major William Herbert, M.A., LL.M., F.Z.S.; Westfield Place, Battle, Sussex.

1892. Munn, Philip Winchester, F.Z.S.; Laverstoke, Whitchurch, Hants.

275 1897. Munt, Henry, F.Z.S.; 10 Ashburn Place, South Kensington, S.W.

1911. Murray, Edward Mackenzie; Woodside, Coupar-Angus, Perthshire.

1910. Murray, Herbert Willaume, F.Z.S.; The Old House, Epsom, Surrey.

1900. Musters, John Patricius Chaworth, D.L., J.P.; Annesley Park, Nottingham.

1907. Neave, Sheffield Airey, M.A., B.Sc. F.Z.S.; Mill Green Park, Ingatestone, Essex

Date of Election.

280 1882. Nelson, Thomas Hudson; Seafield, Redcar, Yorkshire.

1895. Nesham, Robert, F.Z.S., F.E.S.; Utrecht House, Queen's Road, Clapham Park, S.W.

1904. Newman, Thomas Henry, F.Z.S.; Newlands, Harrowdene Road, Wembley, Middlesex.

1902. Nichols, John Bruce, F.Z.S.; Parliament Mansions, Victoria Street, S.W.

1900. Nichols, Walter Buchanan; Stour Lodge, Bradfield, Manningtree, Essex.

285 1876. Nicholson, Francis, F.Z.S.; The Knoll, Windermere, Westmoreland.

1902. Nicoll, Michael John, F.Z.S.; Valhalla House, Zoological Gardens, Giza, Egypt.

1904. Noakes, Wickham; Selsdon Park, Croydon, Surrey.

1892. Ogilvie, Fergus Menteith, M.A., F.Z.S.; The Shrubbery, 72 Woodstock Road, Oxford.

1890. Ogilvie-Grant, William Robert, F.Z.S.; British Museum (Natural History), Cromwell Road, S.W.

290 1889. Ogle, Bertram Savile; Hill House, Steeple Aston, Oxford.

1907. Oldham, Charles, F.Z.S.; Kelvin, Boxwell Road, Berkhamsted, Herts.

1906. Osmaston, Bertram Beresford (Imperial Forest Service); Naini Tal, India.

1883. Parker, Henry, C.E.; Whitbourne Lodge, Manby Road, Great Malvern.

1880. Parkin, Thomas, M.A., F.L.S., F.Z.S.; Fairseat, High Wickham, Hastings, Sussex.

295 1908. Paton, Edward Richmond, F.Z.S.; Brookdale, Grassendale, near Liverpool, Lancs.

1891. Patterson, Robert, F.L.S., M.R.I.A.; Glenbank, Holywood, Co. Down, Ireland.

1911. Patterson, William Harry; 25 Queen's Gate Gardens, S.W.

1904. Pearse, Theed; Central Park, British Columbia; and Mentmore, Ampthill Road, Bedford.

1894. Pearson, Charles Edward, F.L.S.; Hillcrest, Lowdham, Notts.

300 1891. Pearson, Henry J., F.Z.S.; Bramcote, Notts.

1902. Pease, Sir Alfred Edward, Bt., F.Z.S.; Pinchinthorpe House, Guisborough, Yorkshire; and Brooks's Club, St. James's Street, S.W.

Date of
Election.

1898. Penn, Eric Frank; 42 Gloucester Square, W.

1891. Penrose, Francis George, M.D., F.Z.S.; Wick House, Downton, Salisbury, Wilts.

1900. Percival, Arthur Blayney, F.Z.S.; Game-Ranger, Nairobi, British East Africa Protectorate; and Somerset Court, Brent Knoll, Somerset.

305 1907. Percy, Lord William; 2 Grosvenor Place, S.W.; and Alnwick Castle, Alnwick, Northumberland.

1886. Phillips, Ethelbert Lort, F.Z.S.; 79 Cadogan Square, S.W.

1893. Pigott, Sir Thomas Digby, K.C.B.; The Lodge, Lower Sheringham, Norfolk.

1908. Player, W. J. Percy; The Quarr, Clydach, R.S.O., Glamorganshire.

1907. Pocock, Reginald Innes, F.R.S., F.L.S., F.Z.S.; Superintendent of the Zoological Gardens, Regent's Park, N.W.

310 1905. Pollard, Capt. Arthur Erskine St. Vincent (The Border Regiment); Haynford Hall, Norwich, Norfolk.

1896. Popham, Hugh Leyborne, M.A.; Hunstrete House, Pensford, near Bristol.

1898. Price, Athelstan Elder, F.Z.S.; 61 Great Cumberland Place, W.

1903. Proctor, Major Frederick William (late West Riding Regt.); Downfield, Maidenhead, Berks.

1901. Proud, John T.; Dellwood, Bishop Auckland, Durham.

315 1893. Pycraft, William Plane, F.Z.S.; British Museum (Natural History), Cromwell Road, S.W.

1888. Radclyffe, Charles Robert Eustace; Hyde, Wareham, Dorset.

1903. Ralfe, Pilcher George; The Parade, Castletown, Isle of Man.

1903. Ratcliff, Frederick Rowlinson; 24 Lancaster Gate, W.

1879. Rawson, Herbert Evelyn; Comyn Hill, Ilfracombe, N. Devon.

320 1894. Read, Richard Henry, M.R.C.S., L.R.C.P.; Church Street, Hanley, Staffordshire.

1888. Read, Robert H.; 8*a* South Parade, Bedford Park, W.

1877. Reid, Capt. Philip Savile Grey (late R.E.); The Elms, Yalding, Maidstone, Kent.

1903. Renaut, William E.; 192 Belsize Road, Hampstead, N.W.

1908. Richardson, Norman Frederic, F.Z.S.; Lyndale, Manor Road, Forest Hill, S.E.

Date of Election.

325 1907. Richmond, Herbert William; King's College, Cambridge.

1895. Rickett, Charles Boughey, F.Z.S.; 13 St. Paul's Road, Clifton, Bristol.

1896. Rippon, Lt.-Col. George, F.Z.S.; 89th Punjabis, P.O. Kalaw, Southern Shan States, Upper Burma.

1907. Ritchie, Archibald Thomas Ayres; Magdalen College, Oxford; and Overstrand, near Cromer, Norfolk.

1902. Rivière, Bernard Beryl, F.R.C S.; St. Giles's Plain, Norwich, Norfolk.

330 1908. Robertson, Sir Henry Beyer, B.A.; Palé, Corwen, North Wales.

1898. Robinson, Herbert C., C.M.Z.S.; Selangor State Museum, Kuala Lumpur, Federated Malay States.

1896. Rogers, Lt.-Col. John Middleton, D.S.O., F.Z.S. (late 1st Dragoons); Riverhill, Sevenoaks, Kent.

1893. Rothschild, The Hon. Lionel Walter, D.Sc., Ph.D., F.Z.S.; The Zoological Museum, Tring, Herts.

1894. Rothschild, The Hon. Nathaniel Charles, M.A., F.Z.S.; Arundel House, Kensington Palace Gardens, W.

335 1910. Rücker, Sir Arthur William, M.A., D.Sc., LL.D., F.R.S.; Everington House, Newbury, Berks.

1907. Russell, Conrad George Edward, F.Z.S.; 2 Audley Square, W.

1910. Russell, Harold, F.Z S.; 16 Beaufort Gardens, Chelsea, S.W.

1883. St. Quintin, William Herbert, F.Z.S.; Scampston Hall, Rillington, Yorkshire.

1903. Sandeman, Capt. Robert Preston (late 10th Hussars); Dan-y Parc, Crickhowell, Breconshire.

340 1889. Sapsworth, Arnold Duer, F.Z.S.; National Liberal Club, Whitehall Place, S.W.

1902. Sargeaunt, Arthur St. George; Exbury, Padstow, Cornwall.

1904. Sargent, James; 76 Jermyn Street, S.W.

1902. Saunders, William Henry Radcliffe, C.E., F.Z.S.; The White Mansion, 91 York Street, Westminster, S.W.

1909. Savage, The Rev. Ernest Urmson; 129 Upper Canning Street, Liverpool, Lancs.

345 1907. Schwann, Geoffrey; 4 Prince's Gardens, S.W.

1905. Schwann, Harold, F.Z.S.; 45 Brompton Square, S.W.

Date of
Election.

* 1858. SCLATER, PHILIP LUTLEY, D.Sc., F.R.S., F.Z.S.; Odiham Priory, Winchfield, Hants; and Athenæum Club, Pall Mall, S.W. (*Joint Editor.*) (*Gold Medallist.*)

1891. SCLATER, WILLIAM LUTLEY, M.A., F.Z.S.; 10 Sloane Court, Chelsea, S.W.

1907. SCOTT, The Rev. Canon SAMUEL GILBERT, M.A.; The Rectory, Havant, Hants.

350 1899. SELOUS, FREDERICK COURTENEY, F.Z.S.; Heatherside, Worplesdon, Surrey.

1889. SENHOUSE, HUMPHREY PATRICIUS, B.A.; The Fitz, Cockermouth, Cumberland.

1908. SEPPINGS, Capt. JOHN WILLIAM HAMILTON; Army Pay Office, Bootham, York.

1899. SERLE, The Rev. WILLIAM, M.A., B.D.; The Manse, Duddingston, Edinburgh.

1901. SETH-SMITH, DAVID, F.Z.S.; 34 Elsworthy Road, South Hampstead, N.W.

355 1904. SETH-SMITH, LESLIE MOFFAT, B.A., F.Z.S.; Alleyne, Caterham Valley, Surrey.

1909. SETON, MALCOLM COTTER CARISTON; 13 Clarendon Road, Holland Park, W.; and Union Club, Trafalgar Square, S.W.

1899. SHARMAN, FREDERIC, F.Z.S.; 47 Goldington Road, Bedford.

1865. SHEPHERD, The Rev. CHARLES WILLIAM, M.A., F.Z.S.; Trottiscliffe Rectory, Maidstone, Kent.

1908. SMALLEY, FREDERIC WILLIAM, F.Z.S.; Challan Hall, Silverdale, near Carnforth, Lancs.

360 1906. SNOUCKAERT VAN SCHAUBURG, Baron RENÉ CHARLES; Neerlangbroek, Holland.

1903. SPARROW, Major RICHARD, F.Z.S. (7th Dragoon Guards); Rookwoods, Sible Hedingham, Essex.

1906. STANFORD, Surgeon CHARLES EDWARD CORTIS, B.Sc., M.B., R.N.; Royal Marine Barracks, Plymouth.

1910. STANFORD, EDWARD FRASER; 9 Cumberland House, Kensington Court, W.

1893. STANLEY, SAMUEL S.; Fair View House, Harbury, Leamington, Warwickshire.

365 1900. STARES, JOHN WILLIAM CHESTER; Portchester, Hants.

1902. STENHOUSE, JOHN HUTTON, M.B., R.N.; 67 Marine Parade, Sheerness, Kent.

Date of Election.

1910. Stevens, Herbert; Dejoo, North Lakhimpur P.O., Assam, India; and c/o Messrs. Thos. Cook & Sons, Ltd., Ludgate Circus, E.C.

1906. Steward, Edward Simmons, F.R.C.S.; 10 Prince's Square, Harrogate, Yorks.

1893. Stonham, Charles, C.M.G., F.R.C.S., F.Z.S.; 4 Harley Street, Cavendish Square, W.

370 1881. Studdy, Col. Robert Wright (late Manchester Regiment); Waddeton Court, Brixham, Devon.

1887. Styan, Frederick William, F.Z.S.; Stone Street, near Sevenoaks, Kent.

1887. Swinburne, John; Haenertsburg, Transvaal, South Africa.

1882. Swinhoe, Col. Charles, M.A., F.L.S., F.Z.S.; 6 Gunterstone Road, W. Kensington, W.

1884. Tait, William Chaster, C.M.Z.S.; Entre Quintas 155, Oporto, Portugal.

375 1911. Talbot-Ponsonby, Charles George; 5 Crown Office Row, Temple, E.C.

1911. Tatton, Reginald Arthur; Cuerden Hall, Bamber Bridge, Preston, Lancs.

1905. Taylor, Lionel Edward, F.Z.S.; Bankhead, Kelowna, British Columbia.

1909. Tenison, Lieut. William Percival Cosnahan (62nd Battery, R.F.A.); Nowshera, N.W.F.P., India.

1886. Terry, Major Horace A. (late Oxfordshire Light Infantry); The Lodge, Upper Halliford, Shepperton, Middlesex.

380 1911. Thomson, A. Landsborough; Castleton House, Old Aberdeen, Aberdeen.

1904. Thompson, William R. (Lieut. R.G.A.); 'Ravello,' Carlton Road, Weymouth, Dorset.

1900. Thorburn, Archibald, F.Z.S.; High Leybourne, Hascombe, near Godalming, Surrey.

1893. Thorpe, Dixon L.; Loshville, Etterby Scaur, Carlisle.

1903. Ticehurst, Claud Buchanan, M.A., M.D., M.R.C.S.; Grove House, Lowestoft, Suffolk.

385 1894. Ticehurst, Norman Frederic, M.A., M.B., F.R.C.S., F.Z.S.; 35 Pevensey Road, St. Leonards-on-Sea, Sussex.

1902. Townsend, Reginald Gilliat, M.A.; Buckholt, Dean, Salisbury, Wilts.

Date of
Election.

1893. Trevor-Battye, Aubyn, F.Z.S.; Stoner Hill, Petersfield, Hants.; and Royal Societies Club, St. James's Street, S.W.

1911. Tyrwhitt-Drake, Hugh Garrard, F.Z.S.; Cobtree, Sandling, Maidstone, Kent.

1864. Upcher, Henry Morris, F.Z.S.; Sheringham Hall, Cromer, Norfolk.

390 1894. Ussher, Richard John, M.R.I.A.; Cappagh House, Cappagh, S.O., Co. Waterford, Ireland.

1907. Van Oort, Dr. Eduard Daniel; Museum of Natural History, Leyden, Holland.

1910. Van Someren, Dr. Robert Abraham Logan; Uganda Medical Staff, Kyetumi, Uganda, British East Africa.

1908. Vaughan, Matthew; Haileybury College, Herts.

1906. Vaughan, Lieut. Robert E., R.N.; H.M. Coast Guard, Lynn, Norfolk.

395 1890. Venour, Stephen; Fern Bank, Altrincham, Cheshire.

1884. Verey, Alfred Sainsbury; Heronsgate, near Rickmansworth, Herts.

1881. Verner, Col. William Willoughby Cole (late Rifle Brigade); Hartford Bridge, Winchfield, Hants; and United Service Club, S.W.

1902. Wade, Edward Walter; Middelburg, North Ferriby, East Yorks.

1886. Wade-Dalton, Col. H. D.; Hauxwell Hall, Finghall, R.S.O., Yorkshire.

400 1895. Wallis, Henry Marriage; Ashton Lodge, Christchurch Road, Reading, Berks.

1881. Walsingham, Thomas, Lord, M.A., LL.D., F.R.S., F.Z.S.; Merton Hall, Thetford, Norfolk.

1899. Walton, Major Herbert James, M.D., F.R.C.S., C.M.Z.S., I.M.S.; c/o Messrs. King, King & Co., P.O. Box 110, Bombay, India.

1872. Wardlaw-Ramsay, Lt.-Col. Robert George, F.Z.S.; Whitehill, Rosewell, Midlothian, N.B.

1896. Watkins, Watkin, F.Z.S.; 33 Evelyn Gardens, S.W.; and Wellington Club, S.W.

405 1903. Watt, Hugh Boyd; 3 Willow Mansions, West Hampstead, N.W.

Date of Election.

1900. Westell, William Percival, F.L.S., F.R.H.S.; Verulam, Icknield Way, Letchworth, Herts.

1891. Whitaker, Benjamin Ingham; Hesley Hall, Tickhill, Rotherham, Yorks.

1891. Whitaker, Joseph I. S., F.Z.S.; Malfitano, Palermo, Sicily.

1909. White, Henry Luke; Belltrees, Scone, New South Wales.

410 1903. White, Stephen Joseph, F.Z.S.; Oakwood, Crayford, Kent.

1903. Whitehead, Capt. Charles Hugh Tempest; Deighton Grove, York.

1887. Whitehead, Jeffery, ; Mayes, East Grinstead, Sussex.

1897. Whymper, Charles, F.Z.S.; 11 Orange Street, Haymarket, S.W.

1898. Wiglesworth, Joseph, M.D., F.R.C.P.; Rainhill, near Liverpool, Lancs.

415 1894. Wilkinson, Johnson; St. George's Square, Huddersfield, Yorkshire.

1897. Wilson, Allan Read, B.A., M.B., B.Ch.; Edgewood, Lower Arrow Lake, British Columbia.

1888. Wilson, Charles Joseph, F.Z.S.; 34 York Terrace, Regent's Park, N.W.

1900. Wilson, Dr. Edward Adrian, F.Z.S.; SS. "Terra Nova," Christchurch, Lyttleton, New Zealand; and Westal, Cheltenham, Gloucestershire.

1887. Wilson, Scott Barchard, F.Z.S.; Heatherbank, Weybridge Heath, Surrey.

420 1897. Witherby, Harry Forbes, F.Z.S.; 3 Cannon Place, Hampstead, N.W.

1908. Witherington, Gwynne; Aberlash, Sonning, Berks.

1899. Wollaston, Alexander Frederick Richmond, B.A.; 31 Argyll Mansions, King's Road, Chelsea, S.W.

1909. Woosnam, Richard Bowen, C.M.Z.S.; Game Warden's Office, Nairobi, British East Africa.

1902. Workman, William Hughes; Lismore, Windsor, Belfast, Ireland.

425 1904. Wright, William Crawford; Roslyn, Marlborough Park, N., Belfast, Ireland.

1895. Yerbury, Lt.-Col. John William (late R.A.), F.Z.S.; 8 Duke Street, St. James's, S.W.; and Army and Navy Club, S.W.

1889. Young, Capt. James B., R.N.; Tytherley, Wimborne, Dorset.

Date of Election.

Extra-Ordinary Members.

1899. **Godwin-Austen**, Lt.-Col. **Henry Haversham**, F.R.S., F.Z.S.; Nore, Hascombe, Godalming, Surrey.

1909. **Tegetmeier, William Bernhard**; 19 Westbere Road, W. Hampstead, N.W.

1860. **Wallace, Alfred Russel**, O.M., D.C.L., LL.D., F.R.S., F.Z.S.; Broadstone, Wimborne, Dorset.

Honorary Members.

1907. **Allen, Joel Asaph**, Ph.D., F.M.Z.S.; American Museum of Natural History, Central Park, New York, U.S.A.

1886. **Ayres, Thomas**; Potchefstroom, Transvaal, South Africa.

1890. **Berlepsch**, Graf **Hans von**, C.M.Z.S.; Schloss Berlepsch, Post Gertenbach, Witzenhausen, Germany.

1900. **Collett**, Prof. **Robert**, F.M.Z.S.; University Museum, Christiania, Norway.

5 1872. **Finsch**, Prof. Dr. **Otto**, C.M.Z.S.; Altewiekring 19$^{\text{F}}$, Brunswick, Germany.

1898. **Goeldi**, Prof. Dr. **Emil A.**, C.M.Z.S.; Zieglerstrasse 36, Berne, Switzerland.

1893. **Reichenow**, Dr. **Anton**, C.M.Z.S.; Museum für Naturkunde, Invalidenstrasse, Berlin, Germany.

1903. **Ridgway, Robert**, C.M.Z.S.; Smithsonian Institution, Washington, D.C., U.S.A.

1890. **Salvadori**, Count **Tommaso**, M.D., F.M.Z.S.; Royal Zoological Museum, Turin, Italy.

Honorary Lady Members.

1910. **Bate**, Miss **Dorothy M. A.**; Bassendean House, Gordon, Berwickshire.

1911. **Baxter**, Miss **Evelyn Vida**; Roslea, Kirkton of Largo, Fifeshire.

1910. **Bedford, Mary, Duchess of**, F.Z.S.; Woburn Abbey, Beds.

1910. **Lemon**, Mrs. **Margaretta Louisa**, F.Z.S.; Hillcrest, Redhill, Surrey.

5 1911. **Rintoul**, Miss **Leonora Jeffrey**; Lahill, Largo, Fifeshire.

1910. **Turner**, Miss **Emma Louisa**, F.Z.S.: Upper Birchetts, Langton Green, Tunbridge Wells, Kent.

Date of
Election.

Colonial Members.

1904. Campbell, Archibald James; Custom House, Melbourne, Australia.

1908. Farquhar, John Henry Joseph, B.Sc., N.D.A.; Assistant Conservator of Forests, Calabar, Southern Nigeria, West Africa.

1910. Fleming, James H.; 267 Rusholme Road, Toronto, Canada.

1909. Haagner, Alwin Karl, F.Z.S.; Transvaal Museum, Pretoria. South Africa.

5 1908. Hall, Robert, F.L.S., C.M.Z.S.; Curator of the Tasmanian Museum, Hobart, Tasmania.

1903. Legge, Col. W. Vincent, F.Z.S.; Cullenswood House, St. Mary's, Tasmania.

1905. Macoun, John, M.A., F.R.S.C.; Naturalist to the Geological Survey of Canada, Ottawa, Canada.

1903. North, Alfred J., C.M.Z.S.; Australian Museum, Sydney, New South Wales.

1907. Swynnerton, Charles Francis Massy, F.L.S.; Gungunyana, Melsetter, South Rhodesia.

Foreign Members.

1909. Alphéraky, Sergius N.; Imperial Academy of Science, St. Petersburg, Russia.

1900. Bianchi, Dr. Valentine; Imperial Zoological Museum, St. Petersburg, Russia.

1904. Blasius, Geh. Hofr. Prof. Dr. Wilhelm, C.M.Z.S.; Gauss-Strasse, 17, Brunswick, Germany.

1880. Bureau, Louis, M.D.; École de Médecine, Nantes, France.

5 1906. Büttikofer, Dr. Johannes, C.M.Z.S.; Director of the Zoological Garden, Rotterdam, Holland.

1906. Buturlin, Sergius A.; Wesenberg, Esthonia, Russia.

1902. Chapman, Frank Michler; American Museum of Natural History, Central Park, New York, U.S.A.

1875. Doria, Marchese Giacomo, F.M.Z.S.; Strada Nuova 6, Genoa, Italy.

1902. Ihering, Dr. Herman von, C.M.Z.S.; Museu Paulista, São Paulo, Brazil.

10 1886. Madarász, Dr. Julius von; National Museum, Budapest. Hungary.

Date of Election.

1903. Martorelli, Prof. Dr. Giacinto; Museo Civico di Storia Naturale, Milan, Italy.

1894. Menzbier, Prof. Dr. Michael, C.M.Z.S.; Imperial Society of Naturalists, Moscow, Russia.

1905. Oberholser, Harry Church; Biological Survey, Department of Agriculture, Washington, D.C., U.S.A.

1900. Reiser, Dr. Othmar; Landes Museum, Sarajevo, Bosnia, Austria.

15 1908. Richmond, Charles Wallace; United States National Museum, Washington, D.C., U.S.A.

1894. Schalow, Herman; Traunsteinerstrasse 2[1], Berlin W. 30, Germany.

1900. Stejneger, Leonhard, C.M.Z.S.; Smithsonian Institution, Washington, D.C., U.S.A.

1902. Sushkin, Dr. Peter, C.M.Z.S.; Imperial University, Moscow, Russia.

1911. Tschusi zu Schmidhoffen, Victor, Ritter von; Villa Tännenhof, bei Hallein, Salzburg, Austria.

20 1896. Winge, Herluf, C.M.Z.S.; University Zoological Museum, Copenhagen, Denmark.

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THE IBIS.

NINTH SERIES.

No. XVII. JANUARY 1911.

I.—*Nine Days on Grimsey and the North-east Coast of Iceland.* By Mary, Duchess of Bedford, F.L.S., F.Z.S., H.M.B.O.U.

(Text-figures 1–4.)

Having heard that the Island of Grimsey was of interest to ornithologists, I decided to visit it in my yacht this summer (1910).

Though the time at my disposal was far too short to enable me to make any specially valuable contribution to what is already known of the birds of that island, the observations made during my brief visit may be of sufficient interest to be worth placing on record.

I embarked at Invergordon. Twelve hours brought me to Fair Isle, where I had spent such an extremely interesting time during the spring migration. But that island boasts of few resident birds, and I saw nothing of interest in an hour's walk except some White Wagtails, which were evidently breeding there again.

A few hours were also spent at Balta Sound and the Faroe Isles, but time did not allow of any bird-watching.

I left the Faroe Isles at 6 P.M. on the 6th of July. The voyage was uneventful, except for coming across a dead whale surrounded by hundreds of Fulmars, and for being delayed by fog for twelve hours when we ought to have been in sight of Iceland. I afterwards noticed that during the whole of my visit this heavy belt of fog lay some miles off the north and east coasts of Iceland when the coast itself was in bright sunshine. I am of opinion that could we have gone nearer land on arrival we should have run through the fog which delayed us, but the risk of such a proceeding was too great.

There are very few birds out at sea at this time of year. Puffins were the first to shew us that we were approaching land, then Fulmars, Arctic Skuas, Arctic Terns, and Kittiwakes.

I spent a few hours at an anchorage at the entrance to Seydisfjord, and left for Grimsey at 9 P.M.

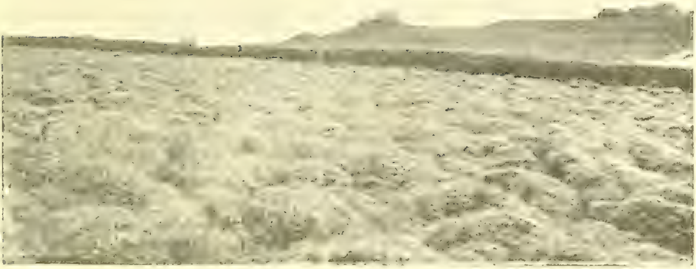
Early the following morning we were off Langanes Point, the extreme north-east point of the mainland, and had a beautifully clear view of the snow-covered mountains of Northern Iceland.

We reached the Island of Grimsey at noon on July 10th. Fortunately the wind was E.N.E., an ideal one for this anchorage. Grimsey is about 2½ miles long and 1 mile wide at the broadest part. The highest cliffs are on the north and east coasts. A narrow promontory slopes almost down to sea-level on the extreme N.W., and I imagine that a landing could be effected there in a S.E. wind. The chief landing-places are on the S.W. and W., and in the absence of a swell are perfectly easy, but on the E. and N.E. of the island landing could only be effected with the assistance of a rope. The ground is very undulating and covered with the hummocks so characteristic of Northern Iceland (see text-fig. 1, p. 3).

There are a number of small freshwater lochs, which should be a great attraction to passing migrants. At the time of my visit snow was still lying in drifts on the shore, but it had melted on the higher ground.

The first birds that I saw on arrival were Snow-Buntings. They are as tame and as common round the houses in Grimsey as the House-Sparrow is at home. I found one nest with eggs in it, but most of the young birds were able to fly. Hundreds of Arctic Terns were breeding all over the island and I found both nests and eggs. Eider-Ducks were very abundant and tame. A great many of them had taken their families down to the sea, but some were still sitting, and one of the first inhabitants I spoke to was collecting down. The natives are on such good terms with the birds that they can stroke them on their nests.

Text-fig. 1.



Bird's-eye view of Grimsey, shewing typical hummocky ground.

Every little tarn is inhabited by at least one pair of Red-necked Phalaropes and often by three or four pairs.

The White Wagtail was breeding there, as I saw both adults and young birds. Dunlins and Ringed Plovers in pairs also frequented these small lochs. Unfortunately during the first day of my visit there was very thick fog, which prevented my seeing twenty yards ahead of me, but my sense of smell always told me when I was approaching the cliffs. Practically the whole of the coast-line is the resort of thousands of sea-birds in the breeding-season, even the lower cliffs, which are easily acessible and in some places little more than banks, are tenanted by them. Fulmars, Razorbills, Black Guillemots, Kittiwakes, and Brünnich's Guillemots are the most numerous. The last are easily distinguished from their more southern relatives by the light line at the edge of the upper mandible and their blacker colour.

Text-fig. 2.

Breeding-place of the Little Auk.

In two places at least on the S.E. and S.W. of the island, where the cliffs are much lower and there are large boulders on the shore, there are breeding-places of the Little Auk. The birds look like miniature Razorbills in flight. They are much shyer than the Puffins, and, if once disturbed, it is a long time before they will settle again even if the observer remains hidden. I do not think there can be many breeding on the island, as I watched them for a long time and never saw more than six flying at one moment, and each time that I returned to the same place I saw the same number of birds. They may have been concealed beneath the boulders, but I doubt whether they would be sitting so closely in the middle of July.

There were a great many Purple Sandpipers on the island, but, though I met with parties of them some distance from the shore, I could not see any which looked like young birds, nor did they seem to be paired. Amongst the rocks on the shore were a few Turnstones, and in a little bay a pair of Grey Phalaropes. I saw these beautiful little birds repeatedly during my visit and regretted that I could not afford the time to watch them and ascertain whether they were nesting. As, however, they were a pair and never left the bay in which I first noticed them, I think it is more than likely that at this date (July 10th) they were not passing visitors.

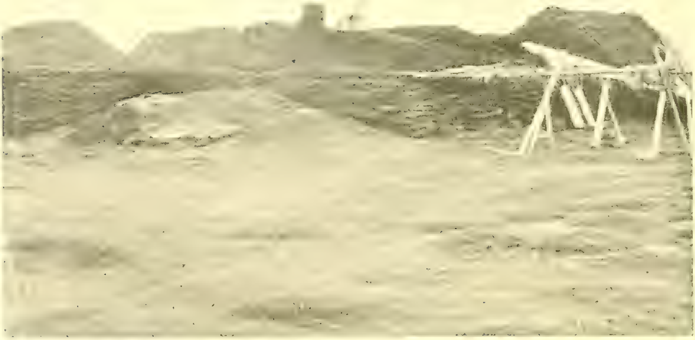
On the high ground Golden Plovers and Meadow-Pipits were breeding, as I found nests of both.

I also saw two male Teal on a loch, a pair of Mallards and a pair of Ravens on the cliffs. The Great Skua, Arctic Skua, Gannet, and Great Black-backed Gull were the only other birds noted during my visit.

The whole island is covered with short grass and moss, and the inhabitants have no crops of any description. There are about fifteen inhabited houses, and I estimate that each contains an average of not less than six inmates. The people have a good many sheep, seven cows, and three ponies. There are two or three wooden houses, but most of them are made of turf. A few large stones are mixed with the turf, for the foundations, and the front of the main entrance is generally made of wood. I was invited into one of them, the entrance-passage of which was so dark that I had to feel my way. Probably for the sake of warmth this passage turned at right angles, and a door led into the principal living-room. It was lined with wood and was almost filled by four wooden box bedsteads, on which was piled a great deal of disorderly bedding. The room, however, was clean, and so were the inhabitants, more or less. The remaining rooms, a pantry and what might be called by courtesy a kitchen and storeroom combined, were made entirely of turf. On the floor was lying the prospective dinner of Puffins and Razorbills. In the outside larder, a construction of poles which appears in the photograph (text-fig. 3), was hung a supply of dried fish and mutton, the odour of which accompanied me some distance after leaving the house.

Though they bolt like rabbits into their houses on the approach of a stranger and are very shy when first spoken to, the inhabitants soon become very friendly and talkative when the ice is broken.

Text-fig. 3.



Huts on Grimsey.

There are no dogs on the island. I gathered that they had been put down, owing to a fatal complaint with which they had been wont to infect their owners. There is excellent sea-fishing.

As the wind changed in the night and blew from the S.W. I was compelled to leave Grimsey after a visit of forty-eight hours, and went over to an anchorage in Eyjafjord (text-fig. 4). On a loch not far from the anchorage I saw Scaup with young and three pairs of Sclavonian Grebes. One of these birds appeared to be sitting on a nest in the grass at the edge of the loch, but the water was too deep for me to make certain.

Farther up the valley I came upon a large tract of marshy ground which was teeming with wildfowl. There were a great many Scaups and Wigeons with young, large flocks of Teal, a few Mallards, Dunlins, Red-throated Divers, Redshanks, and, I think it would be no exaggeration to say, hundreds of Red-necked Phalaropes. I also saw two Long-tailed Ducks. On the high ground above the marsh were numbers of Whimbrel, Golden Plovers, a few Ringed Plovers, and many Wheatears. I should have said (judging from my experience in Fair Isle) that the Wheatears certainly did *not* belong to the larger race, but as I did not shoot any I am unable to prove it.

Text-fig. 4.

Eyjafjord,

As the promontory at the extreme N.E. of Iceland promised to be interesting ground for the bird-watcher, I went next to an anchorage on the south side of it. Close to the anchorage, and separated from the sea by a bank of shingle not fifty yards wide, was a freshwater loch, on which I saw many Great Northern and Red-throated Divers, the former with young. The Eider-Duck was more abundant than in any other place that I have visited. I saw one female a long distance from any other birds with twenty-four young ones, but I think she must have been the superintendent of an Eider-Duck crèche, as I cannot believe that they were all her own.

I have often wondered why the minds of people accustomed to watch birds should be so much exercised over the problem of how young ducks which are hatched in a nest high above the water are taken down to it. Walking on a cliff here above the sea, I accidently scattered an Eider-Duck and her brood. The mother took to flight and the little ones, which were in down, rolled over the edge on to rocks some seventy feet below. I have often seen little birds fall into water or on to grass from a height with impunity, but as these had fallen on to boulders and sharp rocks, I thought their chance of survival was small. On looking over the cliff, however, I saw them pick themselves up as if nothing had happened and run towards their mother in the sea. She obviously expected them to be alive, as she was calling loudly. Evidently they are so light and well protected by down that a voyage in an aeroplane would have no terrors for them.

I was much interested in seeing several Little Auks at this place. Grimsey is said to be their most southern breeding-place; but these birds were always flying about the part of the shore where there were boulders similar to those under which they nest in that island, and though I never saw them settle, it is rather strange that they should have been here on the 14th of July unless they were nesting.

A chain of lochs and low swampy ground extends across the peninsula, and on one of the former I saw a flock of ten Whooper Swans and a Goosander with young. Great numbers of Dunlins and Golden Plovers frequented the stony ground above the lochs. The melancholy "wheep" of the latter became almost wearisome, but seemed in keeping with the desolate region in which they lived. Houses were few and far between, and there were no tracks, but the direction from one farm to another was marked by large cairns. These cairns, however, are so far apart that I did not find them very helpful in a fog, and deviation from the right path was only ascertained by landing in an impassable bog. I came upon a breeding-place of the Purple Sandpiper. The birds were seen singly or in pairs, and they fluttered round me with trailing wing trying to draw me away whilst I searched for nests or young. In Slater's 'Birds of Iceland,' the author says that he has never met with their nests lower than 1200 to 1500 feet above the sea, but the birds which I saw here were breeding at certainly less than 200 feet above sea-level. Red-necked Phalaropes were plentiful on the shore of Thistilfjord, and I also saw White Wagtails and Snow-Buntings with young. On a hill overlooking the anchorage I found some Rock-Ptarmigan.

As low, flat, marshy ground is often the best field for the ornithologist, I was attracted by the appearance of Heradsfloi on the chart and made this my next anchorage.

I arrived there at 8 P.M. on the 15th of July and went on shore after dinner. A more weird spot I have never been in. A stretch of land 13 to 15 miles wide and extending far inland is entirely composed of black sandy lava, the alluvial deposit of two large rivers. If the charts are to be believed (in these regions we find that they are often untrustworthy), the course of these rivers is at times well defined, but at the date of my visit, probably owing to melting snow, they had widened out into a great lake. Nothing grows on this vast expanse of sandy lava except a very coarse grass, which here and there has managed to get a hold and forms a small mound. Walking in the soft sand was a Herculean labour, and landing on the shore was attended with much difficulty owing to the surf, though the sea was very calm. On the loch were great flocks of Red-throated Divers. I counted 69 in front of me, and there were twice that number in the distance. Very striking also was the number of Arctic Skuas, and amongst them were several Great Skuas. As many as a dozen would sit within gunshot of me at one moment. The only other inhabitants of this dreary waste were a few Great Black-backed Gulls and hundreds of Arctic Terns, on the proceeds of whose fishing the Skuas probably lived.

The following morning I landed again, hoping to explore further, but, though there was no wind, the swell had increased, and after taking a few photographs I was compelled to leave. The dinghey was half filled with water and nearly upset, but we got off with the loss of an oar, and I was sorry that the fear of rising wind deterred me from further exploring this remarkable place. The only bird added to my list of the previous evening was the Great northern Diver.

After a visit to a whaling-station I left Iceland.

II.—*On Birds from the Northern Portion of the Malay Peninsula, including the Islands of Langkawi and Terutau; with Notes on other rare Malayan Species from the Southern Districts.* By Herbert C. Robinson, C.M.Z.S., M.B.O.U., Director of Museums, Federated Malay States, and Cecil Boden Kloss, F.Z.S., M.B.O.U., Curator, Perak State Museum.

[Concluded from 'The Ibis,' 1910, p. 675.]

(Plate I. and Text-figs. 5 & 6.)

Rallidæ.

†12. Rallina superciliaris.

Rallina superciliaris (Eyton); Sharpe, Cat. Birds Brit. Mus. xxiii. p. 76 (1894).

Distinctly rare in the Peninsula and not improbably migratory. A male was obtained on Langkawi in February 1909.

+ 13. AMAURORNIS PHŒNICURA.

Amaurornis phœnicura (Forst.); Sharpe, tom. cit. p. 156.

Common in Trang and in Langkawi, as throughout the Peninsula, in swamps, and especially among the thick and tangled vegetation on the banks of rivers flowing through more or less cultivated ground. The Malay name for the bird in the south is *ayam ayam*, which may be translated "a kind of a hen"!!

LARIDÆ.

+ 14. STERNA BERGII.

Sterna bergii Licht.; Saunders, Cat. Birds Brit. Mus. xxv. p. 89 (1896).

Common at Langkawi and Terutau in November 1907 and March 1909.

This large Tern is distinctly a deep-water species, and is, in the main, found off rocky islets or in the middle of the Straits of Malacca, and not inshore on the mud-flats as are the smaller species of *Sternula*.

CHARADRIIDÆ.

+ 15. SARCOGRAMMUS ATRINUCHALIS.

Sarcogrammus atrinuchalis Jerdon; Sharpe, Cat. Birds Brit. Mus. xxiv. p. 152 (1896).

Exceedingly common on the Langkawi group and throughout Trang on the buffalo-lawns and rice-fields, but rather rarer down south, except on the Pahang River, where the bird nests on the broad sand-banks that border the river in certain parts of its course.

In the south the bird is known to the Malays as the *burong duit duit* or *burong mint a duit*, the "ask a penny bird," from its cry.

+ HOPLOPTERUS VENTRALIS.

Hoplopterus ventralis Sharpe, tom. cit. p. 159.

On the road between Tap-tien and Chong, after heavy rain at the end of December, while in a gharry, we caught a glimpse of a large Plover running on the road, that may possibly have been this species, which was found in the district by Dr. Abbott. We did not obtain a front view, so that definite identification was not possible.

√ 16. OCHTHODROMUS GEOFFROYI.

Ochthodromus geoffroyi (Wagl.); Sharpe, tom. cit. p. 217.

Common at Kuala Kedah and at Langkawi in November and December 1907.

+ 17. OCHTHODROMUS PYRRHOTHORAX.

Ochthodromus pyrrhothorax (Gould); Sharpe, tom. cit. p. 226.

Pulau Terutau, December 1907.

Common on sandy shores throughout the Peninsula during the winter months. The presence of the allied form *O. mongolus* is open to doubt, but it may possibly occur. In winter plumage, however, the two species, or rather forms, are almost indistinguishable.

+ 18. NUMENIUS ARQUATA.

Numenius arquatus Linn.; Sharpe, tom. cit. p. 341.

+ 19. NUMENIUS PHÆOPUS.

Numenius phæopus Linn.; Sharpe, tom. cit. p. 355.

Both the Curlew and the Whimbrel are numerous along the coasts of the Peninsula throughout the winter months, but the latter is by far the commoner of the two, and on more than one occasion I have seen it in flocks that must have numbered several hundred individuals. The Malay name for both species is *burong pisau raut*, from a fancied resemblance of the bill to an implement used for splitting rattans.

+ 20. TOTANUS CALIDRIS.

Totanus calidris Sharpe, tom. cit. p. 414.

The Redshank is common everywhere along the coasts during the winter months, keeping to the mud-flats and creeks among the mangroves, where it is met with in flocks, sometimes numbering over a hundred individuals.

21. TRINGOIDES HYPOLEUCUS.

Tringoides hypoleucus (Linn.); Sharpe, tom. cit. p. 456.

The Common Sandpiper is found throughout the Peninsula in every month of the year, though, of course, more sparingly from April to August.

22. TOTANUS STAGNATILIS.

Totanus stagnatilis Bechst.; Sharpe, tom. cit. p. 422.

A male was shot on Langkawi in February 1909.

23. TEREKIA CINEREA.

Terekia cinerea (Güldenst.); Sharpe, tom. cit. p. 474.

Very common along the coast in the winter months.

24. PSEUDOGLOTTIS GUTTIFER.

Pseudoglottis guttifer (Nordm.); Sharpe, tom. cit. p. 479.

This rare Limicoline bird is probably a great deal commoner, at any rate in its winter-quarters, than would appear at first sight from the number of skins in collections. It is likely to escape notice owing to its very close superficial resemblance to the Common Greenshank, along with which it occurs. We have obtained five specimens, two from Kuala Kedah in November 1907, and three from Kuala Kurau on the Perak coast, about thirty miles to the south of Penang, in February 1908.

25. GLOTTIS NEBULARIUS.

Glottis nebularius (Gunner); Sharpe, tom. cit. p. 481.

The Greenshank was common at Kuala Kedah and on Pulau Terutau in November and December 1907.

26. RHYACOPHILUS GLAREOLA.

Rhyacophilus glareola (Gmel.); Sharpe, tom. cit. p. 491.

The Wood-Sandpiper is not a common bird in the Peninsula, and seems to be met with only in the more inland districts. Two or three were obtained on the lake at Lay Song Hong in the interior of Trang at the end of January 1910.

27. LIMONITES RUFICOLLIS.

Limonites ruficollis (Pall.); Sharpe, tom. cit. p. 545.

A female in winter plumage obtained at Kuala Kedah in November 1907 appears to belong to this species, which occurs in numbers along the Peninsula coast during the winter, though some individuals may prove to be referable to *L. minuta.*

28. ANCYLOCHILUS SUBARQUATA.

Ancylochilus subarquatus (Güldenst.); Sharpe, tom. cit. p. 586.

The Curlew-Sandpiper is widely, though somewhat sparingly, distributed throughout the Peninsula, but individuals appear to arrive early and remain late, and specimens in almost complete breeding-plumage are not infrequently met with.

Our collection contains a male from Kuala Kedah, shot in November 1907.

29. GALLINAGO STENURA.

Gallinago stenura (Kuhl); Sharpe, tom. cit. p. 619.

The Pintail Snipe was exceptionally abundant in the rice-fields both in Langkawi and in Trang; in the latter locality *Gallinago megala*, which has recently been obtained in Selangor, probably occurs also, though we did not obtain specimens.

ARDEIDÆ.

30. ARDEA SUMATRANA.

Ardea sumatrana Raffles; Sharpe, Cat. Birds Brit. Mus. xxvi. p. 68 (1898).

Common along the coasts, both among the mangroves and on the shores of rocky islands. We found it very abundant in the Rhio Archipelago, and discovered that the breast, well hung and well rubbed with pepper and salt, was by no means a bad substitute for beef-steak.

A fine male, now mounted in the Selangor Museum, was secured on Terutau in November 1907.

+ 30. Demiegretta sacra.

Demiegretta sacra (Gmel.); Sharpe, tom. cit. p. 137.

The Reef-Heron is common throughout the coasts of the Malay Peninsula where the shore is of rock or sand, but appears to avoid the mangroves and mud-flats. All the specimens that we have secured are in the grey phase of plumage.

+ 32. Gorsachius melanolophus.

Gorsachius melanolophus (Raffles); Sharpe, tom. cit. p. 166.

This Bittern is very sparingly distributed throughout the Peninsula, though its comparative rarity in collections therefrom is probably due to its nocturnal habits. We are inclined to think that the species is at least partially migratory, and the majority of the few specimens that have passed through our hands were obtained in the winter months. Most of our material was secured actually on the coast or on small islands in the Straits of Malacca, but the Trang collection contains an immature female from Ko Khau, at some considerable distance inland.

+ 33. Butorides javanica.

Butorides javanica (Horsf.); Sharpe, tom. cit. p. 177.

Abundant everywhere on the coast and on the tidal estuaries, wherever there are mangroves.

+ 34. Ardeola bacchus.

Ardeola bacchus (Bp.); Sharpe, tom. cit. p. 211.

A male Pond-Heron, indubitably of this species, was obtained on Pulau Langkawi in March 1909, and Pond-Herons were also abundant in Trang on the flooded rice-fields in December and January. All the specimens obtained were, however, in winter plumage, in which stage it is almost impossible to separate the two species *A. grayi* and *A. bacchus*, whose ranges overlap in the northern Malay Peninsula. The genus is extremely rare in the south, though a specimen of *A. grayi* is in the British Museum from "Malacca," while the Selangor Museum possesses a specimen from Klang that we regard as belonging to the same species, which has also been recorded by Grant from Patani. In Trang this bird kept in large flocks, and, unlike *Bubulcus coromandus*, was so shy as to be almost unapproachable.

35. BUBULCUS COROMANDUS.

Bubulcus coromandus (Bodd.); Sharpe, tom. cit. p. 217.

The Cattle-Egret is a bird of very uncertain distribution in the Peninsula, though in some districts, usually near the coast, it is very abundant. It is, as its trivial name implies, almost invariably associated with cattle, in the case of the Malay Peninsula with the water-buffalo, which it attends so closely that it is often difficult to obtain specimens without injuring or stampeding the beasts. It was very numerous and tame in Trang in December and in Langkawi in November. In the south of the Peninsula the buff breeding-plumes are assumed about April.

CICONIIDÆ.

36. DISSURA EPISCOPUS.

Dissura episcopus (Bodd.); Sharpe, tom. cit. p. 294.

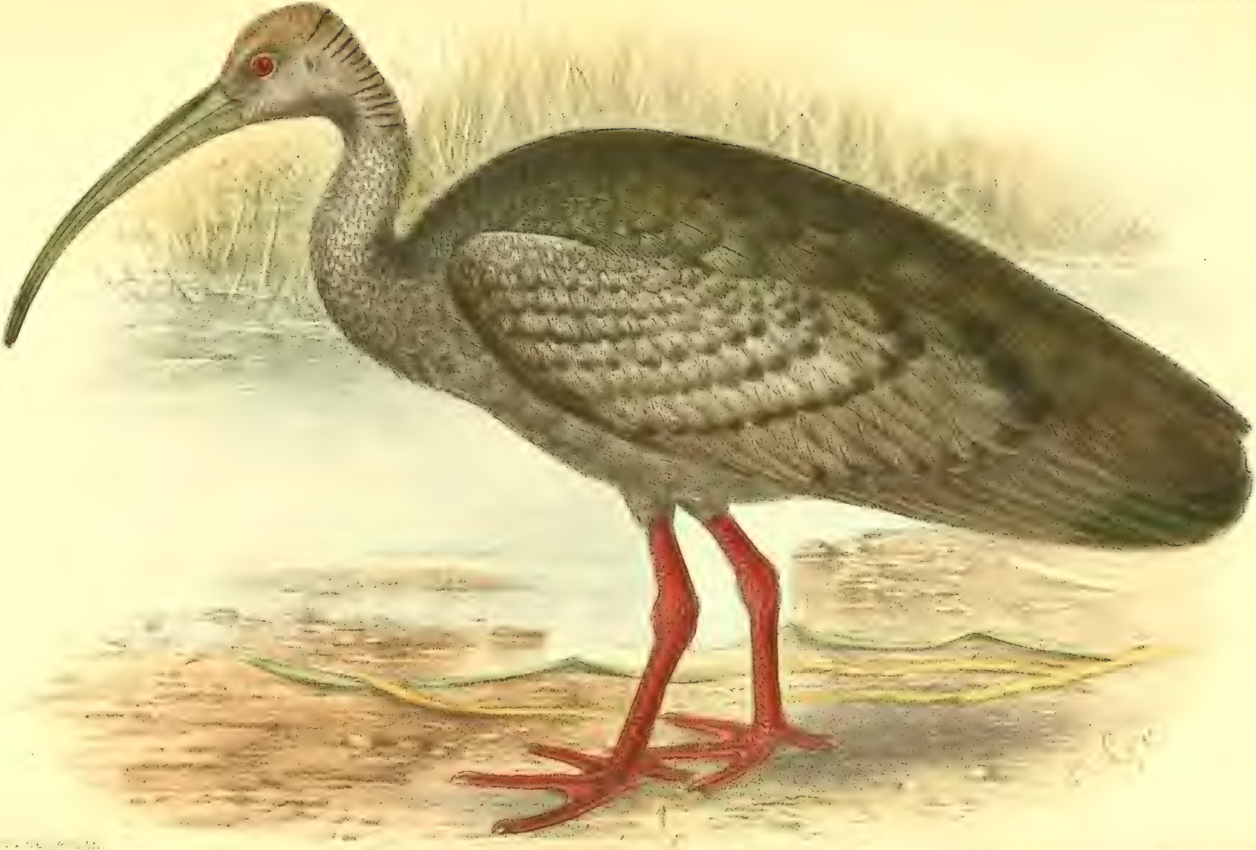
This Stork is common on the rice-fields and open plains of Trang and also in Langkawi. Dr. Annandale and I found it abundant in the interior of the Patani States on the east coast of the Peninsula, but it has not, as yet, been recorded from south of the latitude of Penang.

37. LEPTOPTILUS DUBIUS.

Leptoptilus dubius Sharpe, tom. cit. p. 315.

A specimen of this large Adjutant was obtained on the Lay Song Hong, a shallow lake or rather lagoon in the interior of Trang, in January 1910.

Most of the records for this species from the Malay Peninsula should probably be referred to the smaller species *L. javanicus* Horsf., which is very common along the coast, though hard to procure in most places owing to its shyness and the depth of the mud, which is infested with crocodiles.



THAUMATIBIS GIGANTEA

IBIDIDÆ.

38. GRAPTOCEPHALUS DAVISONI.

Graptocephalus davisoni (Hume), Sharpe, Cat. Birds Brit. Mus. xxvi. p. 14 (1898).

Pseudibis papillosa (nec Temm.), Müll. Journ. für Orn. 1882, p. 437 (Salanga).

This species is evidently common in Trang, and we have received several specimens from the Lay Seng Hong, a large lake or swamp in the interior of the State. Our specimens agree exactly with the types of the species from the Pakchan estuary in the extreme south of Tenasserim, while a skin collected by Lt.-Colonel Wingate in S.W. Yunnan differs in having had the base of the neck on the bare parts deep red instead of livid yellowish-white. Elliot (P. Z. S. 1877, p. 190) has already noticed this difference in certain Siamese birds, but it is improbable that the two forms are specifically distinct, the colours of the bare parts, as in other Ibises, varying greatly with age, sex, and season.

39. THAUMATIBIS GIGANTEA. (Plate I.)

Ibis gigantea Oust. Bull. Soc. Philom. (7) i. p. 25 (1877).

Thaumatibis gigantea Elliot, P. Z. S. 1877, p. 489; Sharpe, tom. cit. p. 14, note.

♂. Krongmon, Interior of Trang, 19th February, 1910.

This is the third known specimen of an exceedingly rare Ibis. Oustalet's type came from Cochin China, and Dr Abbott obtained a second specimen in the interior of Trang, where he states that it was not uncommon in the dry season. We did not ourselves come across the species, and it was only with great difficulty that our collectors succeeded in obtaining a single individual. Our specimen (Pl. I.), which, judging from the bill and feet, is an adult bird, agrees precisely with the type as described by Dr. Elliot.

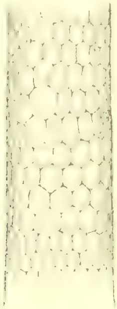
The dimensions are:—

Wing 21·5; tail 10·5; bill along culmen 9·3; tarsus 4·4 inches.

The colours of the soft-parts are not noted by the collector, but appear to have been :—

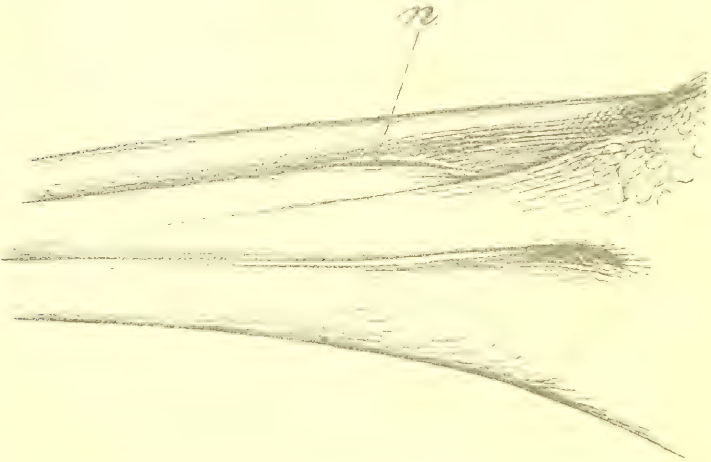
Bare parts of head and neck bluish-black, with black

Text-fig. 5.



Front aspect of right tarsus of *Thaumatibis gigantea*, showing hexagonal and slightly irregular scaling.

Text-fig. 7.



Base of bill of *T. gigantea*, showing slit-like nostril.

transverse bars on the back of the head and neck; bill dull lake; feet and legs bright crimson-lake, claws horny.

SULIDÆ.

40. SULA SULA.

Sula sula (Linn.); Ogilvie-Grant, Cat. Birds Brit. Mus. xxvi. p. 436 (1898).

Numerous off Langkawi in November 1907.

The Booby is found in large numbers throughout the Straits of Malacca south to Singapore, but, at any rate on the western side, is seldom seen near land. It breeds on a small rocky island, one of the Aroa group, in mid-channel between the coast of Selangor and Sumatra. Near Pulau Jarak, in December 1904, one actually flew under the thwarts of our boat in the early morning and being a fine adult specimen was duly enshrined in the Selangor Museum.

PHALACROCORACIDÆ.

[PLOTUS MELANOGASTER.

Plotus melanogaster (Gm.); Ogilvie-Grant, Cat. Birds Brit. Mus. xxvi. p. 414 (1898).

We saw a Darter on the freshwater lake in the Langkawis (alluded to, 'Ibis' 1910. p. 664), but it kept to the middle of the lake, and having no boat we were unable to secure it. We are quite at a loss to know where the specimens in the British Museum from "Penang," "Province Wellesley," "Malacca," and "Johor" really came from, as it is highly improbable that they were derived from the localities ascribed to them. The Hume collectors do not appear to have come across the species, nor have we met with it ourselves in over seven years, and there are no local specimens in any of the Malayan Museums. It has been uncertainly recorded from the headwaters of the Perak and Pahang Rivers by Annandale and Hubback (*in litt.*), but the observers were not ornithologists and may possibly have confused it with the Finfoot (*Heliopais personata*) met with in these localities.]

ANATIDÆ.

41. ASARCORNIS LEUCOPTERA.

Asarcornis scutulata (part.) Salvad. Cat. Birds Brit. Mus. xxvii. p. 60 (1895).

Asarcornis leucoptera (Blyth); Oates, Man. Game Birds Ind. pt. ii. p. 136 et seqq. (1899); Robinson, Journ. Fed. Malay States, iv. p. 132 (1910).

This Duck was very abundant in Trang, from various districts in which State we have obtained over a dozen specimens.

At Chong near the foot of the main dividing-range, which was the only locality in which we personally met with the species, it was fairly numerous and used to come down to the partially flooded rice-fields to feed in the early morning and late afternoon. For so heavy and solid a bird it was a very powerful flier and capable of carrying off a large dose of lead. In the evening, after feeding, it went off to roost in the patches of jungle growing on small and steep hills rising from the general level of the rice-fields. The specimens that we ourselves examined had been feeding on very large snails, apparently a species of *Ampullaria*, with which their crops were crammed.

The changes of plumage are very puzzling in this species, and we are rather doubtful whether the sexes really differ in any material particular, save the slightly larger size of the male.

Of the eight specimens now before us, four are almost uniform glossy black below and have the mantle and back also black, the former glossed with metallic green. The black wing-speculum beneath the white shoulder is broad and clearly defined, and the bills are bright yellow blotched with fuscous.

Three of these specimens are sexed male and are undoubtedly adult. They have the bony knobs at the angle of the wing well developed. A fourth is sexed female by the collector, but cannot be in any way distinguished from the other three specimens.

A fifth bird has the under surface brown, a black collar round the fore-neck, and the upper surface dull oily brown, some glossy green feathers are, however, appearing. The speculum on the wing is ill-defined and the "knuckle-dusters" not very pronounced; bill paler than in the others and more heavily blotched. Wing 14·2 inches.

This bird is marked male and is probably an immature bird of that sex.

The sixth, sexed male, is similar in every way to the preceding, except that the black collar is less in evidence; the "knuckle-dusters" are well marked. Wing 13·2 inches.

The seventh and eighth birds are sexed female. Wing 13·2 and 12·2 inches, wing-speculum well defined. In one specimen the black collar is not very clear, but in the other it is broad and extends well on to the breast. Back of the neck in both specimens glossy greenish black.

The evidence therefore tends to shew that the adult males are entirely black beneath and that the immature males are brown beneath with a black collar, but whether the fully adult females ever become quite black beneath or remain like the immature males is still uncertain.

42. DENDROCYCNA JAVANICA.

Dendrocycna javanica (Horsf.): Salvad. tom. cit. p. 156.

The Whistling Teal is common in Trang and on the Langkawis, and indeed in the north of the Peninsula generally, in swamps and rice-fields and on the larger rivers.

Further south it is very much less common and is rarely met with in the Federated Malay States, except on the Perak and Pahang Rivers, where it is sometimes exceedingly numerous. In Patani it was said to be a migratory bird, as is probably true of *Asarcornis leucoptera*, arriving with the breaking of the N.E. Monsoon in October and November; but its movements are probably only of a local character, depending rather on the relative suitability of the feeding-grounds in one district or another than on a true season migration.

FALCONIDÆ.

43. CIRCUS ÆRUGINOSUS.

Circus æruginosus (Linn.); Sharpe, Cat. Birds Brit. Mus. i. p. 69 (1874).

Langkawi, November and February.

The Marsh-Harrier is fairly numerous in the winter months, wherever there are suitable open spaces. It is particularly abundant in a big marsh near Kuala Lumpur, whence Seimund has secured numerous specimens together with examples of *C. spilonotus* and *C. melanoleucus*.

+ 44. ASTUR POLIOPSIS.

Astur poliopsis (Hume); Sharpe, tom. cit. p. 110.

Two adult females and an immature bird from the interior of Trang agree well with this race and differ from the typical *A. badius* of the Indian Peninsula in their smaller size and in the absence of the rufous nuchal collar. In the Singapore Museum there are specimens of this species from "Singapore," but their provenance is somewhat doubtful.

+ 45. ASTUR SOLOENSIS.

Astur soloensis (Lath.); Sharpe, tom. cit. p. 114.

Very rare in the Malay Peninsula, whence we have only one specimen from Langkawi, shot at the beginning of December 1907.

+ 46. ICTINAËTUS MALAYENSIS.

Ictinaëtus (*Neopus*) *malayensis* (Rheinw.); Sharpe, tom. cit. p. 257; Robinson, p. 171.

The Black Eagle is rare in the plains, though often seen in the mountains of the Malay Peninsula. A fine adult female was obtained near Chong, in Trang, on December 17th, 1909.

+ 47. SPIZAËTUS NIPALENSIS.

Spizaëtus nipalensis (Hodgs.); Sharpe, tom. cit. p. 267; Robinson, Journ. Fed. Malay States Mus. iv. p. 132 (1909).

An immature male, exactly agreeing with others from the Himalayas, was obtained by one of our Dyaks in the hills of Pulau Terutau in March 1909. The species has been procured in Southern China by Styan, but has not apparently been recorded from Burma and Tenasserim (Blanford, Faun. Brit. Ind., Birds, iii. p. 333, 1895). The present locality shews therefore a very considerable extension of range.

+48. SPIZAËTUS LIMNAËTUS.

Spizaëtus limnaëtus (Horsf.); Sharpe, tom. cit. p. 272.

An adult male in the melanotic phase, exactly agreeing with Horsfield's type of the species from Java, was collected on January 12th, 1910, at Lam-ra.

The species is fairly common throughout the Peninsula, keeping to low country and to the lower ground, while the smaller and handsomer *S. alboniger* is found on the hills and in deep jungle.

+49. SPILORNIS PALLIDUS.

Spilornis pallidus (Walden); Sharpe, tom. cit. p. 290, pl. ix.

After examination of a large series of specimens from the whole Malay Peninsula, we are forced to the conclusion that only one form is represented, and that, although it does not precisely agree with any definite species, it comes nearest to *S. pallidus* of Walden from Borneo. That, however, was described on the strength of an extremely young specimen which does not shew the real characters of the species.

The series before us varies greatly both in general intensity of coloration and in the nature and intensity of the spots on the lower surface, which in the majority of the specimens are numerous and somewhat ill-defined at the edges, in this respect approaching *S. rutherfordi*, originally described from Hainan, but apparently spread all over Indo-China. Some specimens, however, notably one from the Larut Hills, Perak, are very much darker, almost approaching Javan birds (*S. bido* Horsf.). The whole genus stands greatly in need of revision.

+50. BUTASTUR INDICUS.

Butastur indicus (Gm.); Sharpe, tom. cit. p. 297.

We have obtained this species twice from Langkawi, in November 1907 and February 1909.

+51. HALIAËTUS LEUCOGASTER.

Haliaëtus leucogaster (Gm.).; Sharpe, tom. cit. p. 307.

The White-bellied Sea-Eagle is found throughout the coasts of the Malay Peninsula and extends for some distance inland wherever there is much rice cultivation. Nearly every small island has a breeding pair of these birds, the nest being an enormous mass of sticks, placed in some lofty tree and added to from year to year. Some of these nests are known to have endured for at least thirty or forty years, and have become conspicuous land-marks on the coast.

52. Haliaëtus leucoryphus.

Haliaëtus leucoryphus (Pall.); Sharpe, tom. cit. p. 308.

We obtained two immature specimens on Pulau Langkawi which are probably referable to this species and not to *H. leucogaster*. The locality shews a considerable extension in range, *H. leucoryphus* not having been hitherto recorded from any part of the Malay Peninsula. One of the specimens was the cause of a rather amusing incident. It was flying at a very considerable height and I had challenged Seimund to bring it down with a shot from his choke barrel. He succeeded, with the result, however, that it fell from the height of about sixty yards through the roof of a Chinaman's house and through his mosquito net into his bed, where he was having a peaceful nap after a pipe or so of opium. He bounced out in a great state of alarm and indignation, and it took some time to quiet him down and explain that the end of the world had not arrived. The momentum of a fifteen pound bird falling from a height of sixty yards is by no means inconsiderable.

53. Haliastur intermedius.

Haliastur intermedius Gurney; Sharpe, tom. cit. p. 314.

The range in the Peninsula, distribution, and habits are precisely as in *Haliaëtus leucogaster*, except that whereas that species is rarely seen except in pairs, this bird is often met with in numbers, especially on or near the fishing-stages when the catch is landed.

54. Microhierax fringillarius.

Microhierax fringillarius (Drap.); Sharpe, tom. cit. p. 367.

The Pygmy Falconet is fairly numerous throughout the

Malay Peninsula in open country, especially in the vicinity of large grass plains and on the banks of the rivers. It is known to Malays as the *Lang belalang*, or grasshopper-hawk, a large proportion of its food consisting of big Acridiidae, though it not unfrequently attacks and kills birds weighing a great deal more than itself.

55. Baza lophotes.

Baza lophotes (Temm.); Sharpe, tom. cit. p. 352.

Our men secured two examples of this rare and beautiful species in Trang. In the Peninsula generally it is decidedly a scarce bird, and the Selangor Museum possesses only two other specimens—one from Singapore collected many years ago, and another recently procured by Mr. Seimund in the vicinity of Kuala Lumpur. This was shot in the evening at the edge of the jungle perched on a lofty tree. Mr. Seimund particularly noted that its crest was held vertically upward.

In Singapore Mr. Ridley states that this species is a migratory bird and that he has observed considerable flocks crossing the Botanic Gardens of that city. Mr. Ridley is well acquainted with the local birds and unless he is mistaken in his identification the observation is distinctly interesting.

56. Baza jerdoni.

Baza jerdoni (Blyth); Sharpe, Ibis, 1893, p. 557; Robinson, Journ. Fed. Malay States Mus. iv. p. 132 (1909); Hartert, Nov. Zool. xvii. p. 214 (1910) (Hainan).

Baza sumatrensis (Lafr.): Sharpe, Cat. Birds Brit. Mus. i. p. 357, pl. xi. fig. 1 (1874) (immature).

Baza incognita Hume, Stray Feathers, iii. p. 314 (1875); id. op. cit. viii. p. 45 (1879).

Four specimens of this exceedingly rare Cuckoo-Falcon were secured in Trang and two in Langkawi. We have in addition examined one from the "East Indies," in the Liverpool Museum, four in the British Museum, including that collected by Wallace in Sumatra ('Ibis,' 1868, p. 18), the type of *Baza incognita* from Central Tenasserim (Hume

Coll.), a skin from Native Sikkim (Mandelli Coll.), and one from Malacca registered as spm. *b* of *Baza magnirostris*, regarding which there was originally some confusion, cleared up by Dr. Sharpe ('Ibis,' 1893, p. 555). There is also an adult stuffed specimen, from Larut, Perak, in the Selangor Museum. It is obvious that these eleven specimens all belong to one species, though, as is almost invariably the case, the Sikkim bird is somewhat larger than those from the Malay Peninsula and from Sumatra.

Of the nine skins now before us, five are sexed as male by the collectors, of which one is evidently immature, while four are marked female, of which one may be considered as a young bird.

It may be of interest to describe the plumages of these nine birds in some detail, the present series being larger than any hitherto got together.

a. Fully adult male. Sungei Kilim, Pulau Langkawi, March 22nd, 1909.

Crown and crest uniform black-grey on the lores, the crest slightly tipped with white; sides of the face grey, the feathers with narrow rufous edges; sides of the throat, feathers above the eye, and a nuchal collar rufous buff, the latter with broad black centres to the feathers; a median gular stripe black, extreme point of the chin grey; upper breast dull brown, many of the feathers with darker bases and shaft-stripes. Remainder of the under surface, including the under tail-coverts, under wing-coverts, and axillaries, evenly barred with white and liver-brown, the latter shading into blackish on the flanks. Mantle and shoulders blackish brown, glossed with purplish, rest of the wing-coverts paler brown; flight-feathers regularly barred with black and brown on their external, with black and white on their internal aspect. Tail with four dark and four light bars and a narrow pale terminal tip.

Wing 12·8; tail 9·1; tarsus 1·65; bill from gape 1·3; crest 2·3 inches.

b, *c*. Somewhat less adult males than "*a*."

Chong, Interior of Trang, North Malay Peninsula, 17th and 19th December, 1909.

These specimens closely resemble "*a*," but differ in the following points:—The dark bars on the under surface are more rufous, the rufous nuchal collar is more pronounced, the gular streak is thicker, and most of the feathers of the crown have paler edges, either buff or grey, giving a streaked appearance to these parts.

Measurements:—

b. Wing 12·7; tail 8·8; tarsus 1·6; bill from gape 1·3; crest 2·3 inches.

c. Wing 12·3; tail 8·7; tarsus 1·65; bill from gape 1·25; crest 2·3 inches.

d. A still younger male.

Chong, Interior of Trang, North Malay Peninsula, 18th December, 1909.

In this specimen, which is somewhat in moult, the upper surface is much paler, especially the shoulders, the feathers of which have pale margins, the throat and chest are heavily streaked longitudinally with black, and the cross-barring has a very irregular appearance, large guttate spots being present in the centre of the abdomen; sides of the head heavily streaked with black.

Wing 12·2; tail 8·5; tarsus 1·6; bill from gape 1·25 inches; crest (in moult).

e. Between Hankachin and Bahonee, Tenasserim, February 6th, 1875 (*A. L. Hough*).

Somewhat older than "*d*," judging from the evenness of the under-surface barring and the black shoulder, but having the head pale, the shafts of the feathers only black; breast very pale, sides of the head grey; crest long.

Wing 12·9; tail 9·1; tarsus 1·6; bill from gape 1·3; crest 2·6 inches.

Type of *B. incognita*, Hume.

f. Adult female. Native Sikkim, March 1878.

Head pale rufous-buff with dark shaft-stripes to the feathers; a faint black gular stripe and the under surface rufous buff and white, the bars clearly defined; median wing-coverts buff tipped with white.

Wing 13·4; tail 9·5; tarsus 1·65; bill from gape 1·3; crest 2·95 inches.

g. A somewhat older female than "*f*."

Sungei Kilim, Langkawi, 23rd February, 1909.

Very similar to "*f*," but with the shoulders darker and without the pronounced white margins to the median wing-coverts, though this may be due to the age of the feathers; sides of the head somewhat richer buff.

Wing 12·7; tail 9·2; tarsus 1·6; bill from gape 1·25; crest 1·9 inches.

h. A female exactly resembling "*g*."

Chong, Trang, North Malay Peninsula, 19th December, 1909.

Wing 12·9; tail 9·6; tarsus 1·65; bill from gape 1·3; crest 2·0 inches.

i. A female, probably immature.

Interior of Sumatra (*Wallace Coll.*).

Like the other females, except that the cross-bars on the belly are less clearly defined, while the gular stripe is entirely lacking.

Wing 12·4; tail 9·0; tarsus 1·6; bill from gape 1·3; crest 2·3 inches.

It may therefore be fairly concluded that the females in this species differ from the males in the pale head with buff, and not grey sides, and in the more rusty, less brown bars on the under surface. There is a slight difference in size in favour of the female, but this is by no means marked, and in the small series before us may be due to the influence of locality and individual variation.

The specimen of *Baza ceylonensis* Legge, from near Kandy, in the British Museum can be exactly matched except in size by two of the above-described series of females, and there is but little doubt that the form is at best merely a poor subspecies of *B. jerdoni*. The dimensions of this specimen, which is a female, are:—Wing 12·0; tail 8·5; bill from gape 1·25; crest 2·4 inches.

The Bornean bird, *B. borneensis* Bruggem. (Sharpe, 'Ibis,' 1893, p. 557), is quite a good species, distinguished by its still smaller size, wing about 11·5, tail about 7·8 inches, and by having the sides of the head not grey but rich rufous and the under surface also more chestnut. There is an adult male and two somewhat younger males from N.E. Borneo (*Colls. Hose and Everett*) in the British Museum.

+ 57. CERCHNEIS TINNUNCULUS.

Cerchneis tinnunculus (Linn.); Sharpe, tom. cit. p. 425.

Tinnunculus saturatus Blyth, Journ. Asiat. Soc. Bengal, xxviii. p. 277 (1859).

We obtained a single immature female of the Kestrel at Langkawi in November 1907, and Dr. Abbott (*fide Richmond, in litt.*) procured an adult female in Trang on January 17th, 1897. Our own specimen is in extremely worn plumage and somewhat bleached, and it is therefore difficult to say whether it is merely a migrant from more northern localities or a specimen of the resident tropical race described by Blyth as above. The former appears to us to be the more probable supposition.

+ 58. PERNIS TWEEDDALII.

Pernis tweeddalei Hume, Stray Feathers, ix. pp. 446–8 (1881); id. op. cit. x. p. 513 (1887); Robinson, p. 171.

+ 59. PERNIS CRISTATUS.

Pernis cristatus Cuv. Règne Anim. i. p. 335 (1829).

Pernis ptilonorhynchus (Temm.); Sharpe, tom. cit. p. 347.

Both these species, if they are distinct, occur throughout the Peninsula, but specimens in the plumage figured by Hume as *P. tweeddalii* are very rare and we have only come across two or three of them. Immature birds without crests are fairly common in the winter months.

PANDIONIDÆ.

+ 60. PANDION HALIAËTUS.

Pandion haliaëtus (Linn.); Sharpe, tom. cit. p. 449.

On the coast and in suitable localities as far as thirty miles inland the Osprey is fairly common throughout the Peninsula.

One was shot at Kuala Kedah in November 1907. The Malay name for the bird is *Lang siput*, or Oyster-Hawk derived from the idea that at the turn of the tide it flies up river uttering its call to warn the shellfish of the return of the water.

61. POLIOAËTUS ICHTHYAËTUS.

Polioaëtus ichthyaëtus (Horsf.): Sharpe, tom. cit. p. 152.

Not rare in the northern portion of the Peninsula on the coast and inland wherever there are rice-fields, but not so numerous further south.

In the interior on the rivers flowing through dense jungle its place is taken by the smaller species *P. humilis*. On some rivers, notably the higher reaches of the Tembeling and its tributary the Tahan, in Pahang, almost every reach is inhabited by a pair of these birds, which lumber along in front of the canoe as the traveller advances up stream.

STRIGIDÆ.

62. KETUPA CEYLONENSIS.

Ketupa ceylonensis (Gm.); Sharpe, Cat. Birds Brit. Mus. ii. p. 4 (1875).

We collected three specimens of the large Fishing-Owl on the edges of the rice-fields at Cheng in the interior of Trang.

It does not appear to have been recorded from further south than Central Tenasserim, so that the present locality shews a considerable extension in range for the species.

63. KETUPA JAVANENSIS.

Ketupa javanensis Less.; Sharpe, tom. cit. p. 8.

Very common everywhere in suitable localities throughout the Peninsula.

64. SYRNIUM SELOPUTO.

Syrnium sinense (Lath.); Sharpe, tom. cit. p. 261.

This Wood-Owl is generally found in orchards and villages roosting in the large fruit-trees and quartering the rice-fields at night for rats, &c.; it is very common in Patani, but appears to be a decidedly rare bird in the Straits Settlements and in the Federated Malay States, where we have met with very few specimens.

One was collected at Chong in December.

† 65. SYRNIUM MAINGAYI.

Syrnium maingayi Hume, Stray Feathers, vi. p. 27 (1878); Robinson, p. 172.

Chong, Trang, 10th December, 1909.

Agreeing well with specimens from the more southerly portions of the Peninsula.

† 66. HUHUA ORIENTALIS.

Bubo orientalis (Horsf.); Sharpe, tom. cit. p. 39.

♀. Lamra, Trang, 21st February, 1910.

Widely distributed throughout the country, but everywhere rare and rather difficult to obtain.

† 67. NINOX SCUTULATA.

Ninox scutulata Raffles; Sharpe, tom. cit. p. 156.

Fairly common everywhere, especially in winter, when its numbers appear to be added to by migrants from the north, and it is often found at that season on extremely small islands.

† 68. SCOPS MALAYANA.

Scops malayanus Hay; Sharpe, tom. cit. p. 58.

We have a pair of this species from Trang and a few others from various parts of the Malay Peninsula, including the Langkawis, but the bird is everywhere rare.

The male of the Trang pair is in a foxy-red phase of plumage, while the female is grey.

† 69. SCOPS LEMPIJI.

Scops lempiji (Horsf.); Sharpe, tom. cit. p. 91.

The commonest of the Scops Owls, which are all very nocturnal and difficult to get, though their melancholy hoots are much heard, especially on moonlight nights. We have this species from Langkawi, where a female was obtained in March 1909.

Psittacidæ.

70. Loriculus vernalis.

Loriculus vernalis (Sparrm.); Salvad. Cat. Birds Brit. Mus. xx. p. 517 (1891).

Two females only, from Lamra in the interior of Trang.

The species has occurred as far south as Klang in Selangor, but it is extremely rare south of Taiping in Perak, *L. galgulus* (Linn.) being the common species in the south of the Peninsula.

Coraciidæ.

71. Eurystomus orientalis.

Eurystomus orientalis (Linn.); Sharpe, Cat. Birds Brit. Mus. xvii. p. 33, pl. ii. fig. 1 (1892).

72. Eurystomus calonyx.

Eurystomus calonyx Sharpe, tom. cit. p. 38, pl. ii. fig. 2.

Both these forms occur together throughout the Peninsula and are represented in the Trang collection.

Both species are commoner during the winter months and are certainly migratory, having been met with on the small islands in the middle of the Straits of Malacca.

Considerable variation is met with in the amount of blue on the tail-feathers and on the outer webs of the secondaries, which are the characters used to differentiate the two forms, though *E. calonyx* is also slightly smaller.

Series of both are in the Selangor Museum for every month from October to March.

Alcedinidæ.

73. Alcedo bengalensis.

Alcedo ispida (part.); Sharpe, tom. cit. p. 141.

Exceedingly abundant in suitable localities.

74. Alcedo meninting.

Alcedo meninting Horsf.; Sharpe, tom. cit. p. 158.

This brilliant little Kingfisher is everywhere rather rare, though well distributed throughout the whole length of the Peninsula. We obtained a male on Terutau in March 1909.

+ 75. ALCEDO EURYZONA.

Alcedo euryzona Temm.; Sharpe, tom. cit. p. 154; Robinson, p. 172.

Three specimens of this rare Kingfisher were shot at Chong and on the hills in the vicinity by one of our Dyaks.

Though nowhere common, the species owes its rarity in collections rather to its extreme wariness and shyness than to any actual scarcity. We have not hitherto secured specimens, but we have met with the species in several localities, viz., at the foot of Gunong Tahan, on the Semangko Pass*, and in several places in North and Central Perak, always in deep jungle and near mountain streams. It flies with great rapidity and is very restless.

+ 76. CEYX TRIDACTYLA.

Ceyx tridactyla (Pall.); Sharpe, tom. cit. p. 174; Robinson, p. 172.

+ 77. CEYX EUERYTHRA.

Ceyx euerythra Sharpe, tom. cit. p. 179.

These little *Ceyces* are widely distributed throughout the Peninsula in heavy jungle, usually near water.

+ 78. PELARGOPSIS AMAUROPTERA.

Pelargopsis amauroptera (Pears.); Sharpe, tom. cit. p. 97.

Three specimens of this handsome Stork-billed Kingfisher were obtained in the Langkawis in February and March 1909. It has been procured in the same group and also in Trang by Dr. Abbott, and his specimens are recorded by Oberholser in his review of the genus (Proc. U. S. Nat. Mus. xxxv. p. 676 (1909)).

I have, however, not followed this author in the substitution of *Rhamphalcyon* for such a universally used name as *Pelargopsis*.

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* One has been recently obtained at Bentorg, on the Pahang side of the main range about 40 miles from Kuala Lumpur.

+79. CARCINEUTES PULCHELLUS.

Carcineutes pulchellus (Horsf.) ; Sharpe, tom. cit. p. 198.

Common in dry jungle.

+80. HALCYON COROMANDUS.

Halcyon coromandus (Lath.) ; Sharpe, tom. cit. p. 217.

Always rather rare in the Peninsula, but commonest in the coastal districts. We have a male from Terutau dated February 1909.

+81. HALCYON SMYRNENSIS.

Halcyon smyrnensis (Linn.) ; Sharpe, tom. cit. p. 222.

Madarász has founded a species, *Halcyon perpulchra*, on a single specimen of this species from Singapore (Ann. Mus. Hungar. ii. pp. 1, 2 (1904)).

+82. HALCYON PILEATUS.

Halcyon pileatus (Bodd.) ; Sharpe, tom. cit. p. 229.

Both this and the last named are common rice-field birds throughout the Peninsula. *H. pileatus* is also found along the rivers even in their upper reaches in jungle country, which is never the case with *H. smyrnensis*.

+83. HALCYON ARMSTRONGI.

Halcyon armstrongi Sharpe, tom. cit. p. 277, pl. vii. fig. 1.
Halcyon humii Sharpe, tom. cit. p. 281, pl. viii.

Throughout the Malay Peninsula on the coast and estuaries, but never found far from salt-water.

Very abundant on Pulau Langkawi and Pulau Terutau.

We do not think that the two forms from the Malay Peninsula recognised by Dr. Sharpe can be kept distinct, and it is, indeed, a question whether all the Indo-Malayan forms would not better be included under one name *Halcyon chloris* (Bodd.).

Halcyon armstrongi is a slightly duller green bird, while *H. humii* is possibly smaller and brighter blue. Both forms, however, have been obtained together in widely separated localities and in the same month ; and as this Kingfisher is a strictly sedentary bird, we cannot regard the differences, which in extreme cases are certainly well-marked, as due to anything but age, sex, and degree of wear in the plumage.

Halcyon armstrongi was the first name published and therefore the one that is applicable, though it was only regarded by Dr. Sharpe as a subspecies of *H. chloris*, while to *H. humii* he accorded full specific rank.

+ 84. HALCYON CONCRETUS.

Halcyon concretus (Temm.); Sharpe, tom. cit. p. 285.

Generally distributed throughout the Peninsula, including Singapore, but confined to deep jungle, where it is frequently—and, indeed, generally—found far from water, like *Carcineutes pulchellus*.

UPUPIDÆ.

+ 85. UPUPA INDICA.

Upupa indica Reichenb.; Salvin, Cat. Birds Brit. Mus. xvi. p. 10 (1892).

Very common indeed in the interior of Trang in open sandy plains, this locality being the southernmost limit of the species on the west coast of the Peninsula. On the east side it was met with by Robinson and Annandale as far south as Patani in similar situations.

BUCEROTIDÆ.

+ 86. DICHOCEROS BICORNIS.

Dichoceros bicornis (Linn.); Grant, Cat. B. Brit. Mus. xvii. p. 355; Robinson, p. 172.

Fairly common on Pulau Terutau and also on the Dindings, islands off the estuary of the Perak River, but separated from the mainland by a very narrow channel.

This species invariably flies at a great height in flocks of seven or eight, and it is difficult to procure a specimen except with a rifle.

In the paper quoted above, Robinson (p. 216, Section B) erroneously records this species as confined to the mainland. It should, of course, be placed in section C, as it is apparently common in Sumatra.

+ 87. ANTHRACOCEROS MALABARICUS.

Anthracoceros malabaricus (Gm.); Grant, tom. cit. p. 365.

Common in Trang, Langkawi, and Terutau, but not found south of Kedah, beyond which State it is replaced by *A. convexus*.

These two species—the other member of the genus occurring in the Peninsula, *A. malayanus*, is more of a jungle-bird—are much more open-country birds than the other Malayan Hornbills. They fly in flocks of five or six individuals and are met with principally along the course of the larger rivers and on the borders of rice-fields, where these are fringed with orchards and villages. They are especially fond of the fruit of the banyan or *kayu ara*, a fig-tree which is very abundant in such situations. Their flight is distinctly laboured and not so sustained as that of the larger species, nor do they fly nearly so high. Their Malay name is *Burong klinking*, alluding to their call, or *Burong lilin*, or Wax-bird, which probably has reference to the colour of the bill.

The larger species of the family, in addition to certain special and local names, are called *Burong enggang* or *burong rakit*, the latter name meaning "raft-bird," a term which has been applied in some parts of the Peninsula to the Rouge-et-noir Broadbill, *Cymborhynchus malaccensis*.

+ 88. RHYTIDOCEROS UNDULATUS.

Rhytidoceros undulatus (Shaw); Grant, tom. cit. p. 382; Robinson, p. 173.

Fairly common in Pulau Terutau and Pulau Langkawi, and also obtained on the mountains of Selangor at high elevations.

MEROPIDÆ.

+ 89. MELITTOPHAGUS SWINHOII.

Melittophagus swinhoii (Hume); Sharpe, Cat. Birds Brit. Mus. xvii. p. 55 (1892).

This beautiful Bee-eater was exceedingly common in the open country of Trang, especially near the coast. To the south it becomes much rarer, and is almost unknown further down the Peninsula than Taiping. We found it very abundant on the island of Langkawi in December 1908, where, just about sunset, countless thousands used to appear and roost on a lofty dead tree among the mangroves on the shore at Kuau.

Among many of the more primitive Malays this is a bird of ill-omen, being associated with the Spectral Huntsman and his Phantom Pack, who loom large in the local folk-lore.

90. MEROPS SUMATRANUS.

Merops sumatranus Raffles; Sharpe, tom. cit. p. 61.

Common nearly all over the Peninsula. Met with in Langkawi in February 1909.

91. MEROPS PHILIPPINUS.

Merops philippinus Linn.; Sharpe, tom. cit. p. 71.

Not so abundant as the preceding species, and common only in the winter months.

Specimens from Terutau obtained in February and March 1909 are in the Selangor Museum.

92. NYCTIORNIS AMICTA.

Nyctiornis amicta (Temm.); Sharpe, tom. cit. p. 90.

This large and handsome Bearded Bee-eater is fairly common in the upland forests throughout the Peninsula, and ascends the mountains to an altitude of over 4000 feet, though it is more common on the lower hills. It is absent from the coastal zone, nor is it met with on any of the outlying islands. In Trang it is probably commoner than the two or three specimens collected indicate, as our Dyaks hardly considered it worth powder and shot.

CAPRIMULGIDÆ.

93. CAPRIMULGUS AMBIGUUS.

Caprimulgus macrurus Horsf. (part.); Hartert, Cat. Birds Brit. Mus. xvi. p. 557 (1892).

Caprimulgus ambiguus Hartert, Ibis, 1896, p. 373.

94. CAPRIMULGUS JOTAKA.

Caprimulgus jotaka Temm. & Schleg.; Hartert, tom. cit. p. 552; Robinson, p. 174.

Both these species were very abundant at Chong for two or three days in December, hawking after termites, which were flighting at the time.

Caprimulgus jotaka is a migrant, and, except possibly at high elevations, only occurs on the Peninsula from October to March; but *C. ambiguus* is resident throughout the year, though much less abundant during these months.

The former species is very common on the islands in the Straits of Malacca, especially those of the Langkawi group.

95. LYNCORNIS CERVINICEPS.

Lyncornis cerviniceps Gould; Hartert, tom. cit. p. 604.

Four specimens were shot at Chong with the preceding.

With the exception of a specimen, now in the Selangor Museum labelled "Penang," without other particulars, this is the most southerly locality recorded for the species. This magnificent Goatsucker, one of the finest of the family, only appeared on three or four nights for a few minutes before and after sunset, when the air was full of termites. Its flight was somewhat slow and very direct, rendering it a very much easier bird to shoot than its congener *L. temmincki*, which is sometimes very rapid in flight. We did not hear it utter any note.

CYPSELIDÆ.

96. TACHORNIS INFUMATA.

Tachornis infumata (Sclat.); Hartert, tom. cit. p. 467; Robinson, p. 175.

We got a single specimen of this Palm-Swift in the gardens at Chong.

97. MACROPTERYX LONGIPENNIS.

Macropteryx longipennis (Rafin.); Hartert, tom. cit. p. 514; Robinson, p. 175.

98. MACROPTERYX COMATA.

Macropteryx comata Temm.; Hartert, tom. cit. p. 517; Robinson, p. 176.

Both these Tree-Swifts are fairly abundant in Trang and are well distributed throughout the Peninsula. They are very fond of perching on the top branches of lofty dead trees on the edge of the jungle or on the banks of rivers, leaving their perches for a few moments to hawk after insects and always returning to the same place. They are specially attracted by termites, and large numbers of these species, as of other Swifts and Goatsuckers, appear when these insects are flighting, which is generally at dusk after heavy rain.

TROGONIDÆ.

+**99. Pyrotrogon orescius.**

Harpactes orescius (Temm.); Grant, Cat. Birds Brit. Mus. xvii. p. 494 (1892).

Pyrotrogon orescius Robinson, p. 176.

Very numerous both in Trang and on the Langkawi Islands, and the only member of the family met with in either of these localities. In the central and southern portions of the Peninsula it is a very much rarer bird.

CUCULIDÆ.

+**100. Coccystes coromandus.**

Coccystes coromandus (Linn.); Shelley, Cat. Birds Brit. Mus. xix. p. 214 (1891).

Very common in Trang in the open country, and also in the Langkawi group; it was met with, together with several other migratory Cuckoos, on the Aroa Islands in the middle of the Straits of Malacca, in November and December 1906. In the south of the Peninsula, at any rate in the more inland districts, it is very much rarer.

We believe this to be largely a migratory species, occurring in numbers only in the winter months, though Davison obtained specimens in Malacca in July.

+ **101. Surniculus lugubris.**

Surniculus lugubris (Horsf.); Shelley, tom. cit. p. 176; Robinson, p. 176.

The Drongo-Cuckoo is very common throughout the Peninsula at all times of the year.

102. Hierococcyx sparverioides.

Hierococcyx sparverioides (Vig.); Shelley, tom. cit. p. 232.

The larger Hawk-Cuckoo was fairly numerous in Trang; to the south it is decidedly rarer, though occasionally met together with *H. nisicolor*.

103. Hierococcyx nisicolor.

Hierococcyx fugax (Horsf.); Shelley, tom. cit. p. 236; Robinson, p. 177.

Hierococcyx nisicolor (Hodgs.); Blanford, Faun. Brit. India, Birds, iii. p. 214 (1895).

A single adult from Trang.

Rather commoner than the preceding species, especially in the central and southern portions of the Peninsula.

104. Cuculus micropterus.

Cuculus micropterus Gould; Shelley, tom. cit. p. 236.

Specimens were collected both in the interior of Trang and on Langkawi.

105. Penthoceryx sonnerati.

Cuculus sonnerati (Lath.); Shelley, tom. cit. p. 262.

♀. Chong, Trang, December 27th, 1910.

For some reason we have come across remarkably few specimens of this Cuckoo in the Peninsula, and it is possible that it is only numerous quite in the south, where Davison secured a fairly large series. It is obviously generically distinct from *Cuculus*, and, as Blanford (Faun. Brit. Ind., Birds, iii. p. 218, 1895) states, should certainly, if not kept distinct under the above name, be placed with *Cacomantis*, to which in the general character of the plumage it shews marked affinities.

106. Cacomantis merulinus.

Cacomantis merulinus (Scop.); Shelley, tom. cit. p. 268; Robinson, p. 177.

Abundant all over the Peninsula.

This Cuckoo is the local "Brain-Fever Bird," and has a trisyllabic note repeated three times on an ascending scale, which is singularly irritating. The species appears to be present in the Peninsula throughout the year, but its numbers are greatly augmented during the winter months.

+ 107. Chalcococcyx xanthorhynchus.

Chalcococcyx xanthorhynchus (Horsf.); Shelley, tom. cit. p. 289.

A single female was obtained on the summit of the dividing range between Trang and the east coast States.

The Violet Cuckoo is rare in the Malay Peninsula, and the Selangor Museum possesses only three males from widely scattered localities.

+ 108. Chalcococcyx maculatus.

Chalcococcyx maculatus (Gm.); Shelley, tom. cit. p. 292.

Two females of the Emerald Cuckoo were secured in the same locality as the preceding. It is an even rarer bird than *C. xanthorhynchus,* and very few specimens indeed are on record from the Peninsula. Both are only found in dense jungle and are shy and retiring in their habits. A third member of the genus, *C. malayanus,* certainly, and a fourth, *C. basalis,* possibly, occur within our limits, but the records of the last are somewhat dubious.

+ 109. Centropus sinensis.

Centropus sinensis (Steph.); Shelley, tom. cit. p. 343; Robinson, p. 177.

Abundant in Trang, as elsewhere in the Peninsula, on waste ground and stretches of open country overgrown with high grass.

+ 110. Eudynamis orientalis.

Eudynamis orientalis (Linn.); Shelley, tom. cit. p. 322.

The Koël is evidently a migratory bird in the Peninsula, and in the central and southern portions is rarely found at any distance inland. It was very common indeed in Trang, up to the foot of the main range, in December 1909, and was also numerous on Pulau Paya, a small island between Langkawi and Kedah, in December 1907. On Pulau Jarah, in the middle of the Straits of Malacca, it was present in very large numbers in April 1906, probably on its way north.

111. RHOPODYTES TRISTIS.

Rhopodytes tristis (Less.); Shelley, tom. cit. p. 386; Robinson, p. 178.

Rhopodytes tristis hainanus Hartert, Nov. Zool. xvii. p. 218.

The large species of *Rhopodytes* was extremely common in Trang, where it was found in the gardens and the secondary jungle at low elevations, whereas in the Federated Malay States it is extremely rare and confined to the mountains.

I have already noted that the Malayan birds are very considerably smaller than the Indian (wing 5·9 against 6·5) and Dr. Hartert has now separated the Hainan bird on this account. In addition, Malayan examples are rather darker above, and are without the yellowish wash on the breast that is almost universal with Indian birds.

It will probably be found that the smaller race inhabits the whole of Siam, French Indo-China, and the Malay Peninsula including Hainan, and it is unfortunate that the subspecific name of "*hainanus*" should be applied to a form of very wide distribution.

112. RHOPODYTES DIARDI.

Rhopodytes diardi (Less.); Shelley, tom. cit. p. 370.

Very rare in Trang, whence we got only two specimens, and apparently supplanted by the large *R. tristis*; in the south of the Peninsula the reverse is the case.

113. ZANCLOSTOMUS JAVANICUS.

Zanclostomus javanicus (Horsf.); Shelley, tom. cit. p. 380; Robinson, p. 178.

The Red-billed Malkoha was very common in Trang, far more so than in the south of the Peninsula, where it is usually found at an elevation of about 2500 ft.

114. RHINORTHA CHLOROPHÆA.

Rhinortha chlorophæa (Raffles); Shelley, tom. cit. p. 393.

This is more of a jungle-bird than the other species of *Phœnicophainæ*, and is usually found in pairs frequenting the dense masses of creepers which cover certain trees. It is especially fond of a species of *Melastomaceæ* with large pink flowers and sticky fruit, which it searches assiduously for insects. It hardly ever takes to flight, but climbs about the creepers and in and out of the dense foliage, and at a great height looks more like a squirrel than a bird.

+115. Urococcyx erythrognathus.

Urococcyx erythrognathus (Hartl.); Shelley, tom. cit. p. 178; Robinson, p. 178.

Common among bamboos on the banks of the river at Chong, Trang, and well distributed throughout the Peninsula.

Capitonidæ.

+116. Calorhamphus hayi.

Calorhamphus hayi (J. E. Gray); Shelley, tom. cit. p. 50; Robinson, p. 178.

Not nearly so common as further south.

+117. Chotorhea chrysopogon.

Chotorhea chrysopogon (Temm.); Shelley, tom. cit. p. 57; Robinson, p. 179.

This Barbet, which was fairly common in the heavier jungle, does not appear to have been recorded from further north than Penang, a locality which is open to strong suspicion.

+118. Chotorhea versicolor.

Chotorhea versicolor (Raffles); Shelley, tom. cit. p. 59; Robinson, p. 179.

Lam-ra, Trang, N. Malay Peninsula, January 1910.

Not so abundant as the preceding species.

+119. Chotorhea mystacophanes.

Cyanops mystacophanes (Temm.); Shelley, tom. cit. p. 72; Robinson, p. 179.

Very numerous.

+120. Mesobucco cyanotis.

Mesobucco cyanotis (Blyth); Shelley, tom. cit. p. 87.

Very numerous at every locality visited in the State;

the birds that we shot ourselves were feeding in flocks on the fruit of a species of fig-tree which attains a very great height.

Individuals from Trang appear to be fairly typical, but this locality is very nearly the southern limit of the species. At Temengoh, in Northern Perak, specimens assignable both to this and the southern form, *M. duvauceli*, having the ear-coverts either blue or black or intermediate, are found. Many Selangor specimens have the ear-coverts faintly washed with verditer-blue, while in Malacca, Johor, and the Sunda Islands the typical black-eared form alone occurs.

121. Xantholæma hæmatocephala.

Xantholæma hæmatocephala (Müll.); Shelley, tom. cit. p. 89.

Very numerous, keeping more to the open country and to orchard land, but not found further south in the Malay Peninsula than Central Perak.

Its Malay name, *tukang besi*, the blacksmith bird, alludes to its gong-like notes, which are most characteristic sounds in the districts which it affects.

Indicatoridæ.

122. Indicator archipelagicus.

Indicator archipelagicus Temm.; Shelley, Cat. Birds Brit. Mus. xix. p. 4 (1891).

Indicator malayanus Sharpe, P. Z. S. 1878, pp. 794, 795; Hume, Stray Feathers, viii. p. 155; Robinson, p. 180.

Indicator archipelagicus inornatus Neumann, Bull. B. O. C. xxi. pp. 97, 98 (1908).

♀. Chong, Trang, N. Malay Peninsula, 30th December, 1909.

♀. Ginting Bidei, Selangor, 2300 ft., 13th May, 1908.

The Malayan Honey-Guide appears to be a species of extreme rarity, and after six years' collecting the Selangor Museum has only succeeded in obtaining the above-mentioned two specimens, while the two others known from the

Peninsula are a native skin from "Malacca," the type of *I. malayanus*, and another obtained by Davison at Klang, Selangor, the type of *I. archipelagicus inornatus*.

Shelley (*loc. cit.*) has described the female as similar in plumage to the male, on the strength of a specimen ("*c*" of the Catalogue) from Bintulu, Sarawak, sexed as such by Everett. It is, however, probable that this is an error and that the female differs from the male in the absence of the chrome-yellow shoulder-patch and possibly in the slightly smaller size.

The type of *I. malayanus* is not devoid of a shoulder-patch as stated by Sharpe, but has it only slightly marked and largely concealed by the method of preparation; it is probably a young male.

Neumann's race is evidently not valid, and no constant differences can be detected between the four specimens from the Peninsula now before me, and five from Borneo, which are not obviously due to age and sex.

Both the above-mentioned examples were shot by natives, one in the vicinity of a bees'-nest and both in deep jungle, but nothing else is known of the habits of the Malayan species.

PICIDÆ.

+123. GECINUS VITTATUS.

Gecinus vittatus (Vieill.); Hargitt, Cat. Birds Brit. Mus. xviii. p. 46 (1890).

Fairly common along the coast of the Peninsula from the Langkawi Islands southwards, especially where there are *Casuarina* trees, but rarely seen inland.

+124. GECINUS VIRIDANUS.

Gecinus viridanus Blyth; Hargitt, tom. cit. p. 47.

Common in Trang.

This species replaces *G. vittatus* northwards of the Langkawi group and also in the Patani States on the east of the Peninsula. The bird from the island of Salanga, *G. weberi* Müller (J. für Orn. 1882, p. 421), of which there are several examples in the British Museum, in no way differs from the mainland form. Certain specimens are browner than others, but there are some from Burma and Tenasserim which exactly match them. Moreover the same variation occurs in the preceding species and is evidently of no diagnostic importance.

+ 125. Gecinus observandus.

Gecinus puniceus (part.) Hargitt, tom. cit. p. 64.

Gecinus puniceus observandus Hartert, Nov. Zool. iii. p. 542 (1896) ; Robinson, p. 180.

Not so common in the north as further south ; we have only a single specimen from Lamra in the interior of Trang.

+ 126. Chrysophlegma malaccense.

Chrysophlegma malaccense (Lath.) ; Hargitt, tom. cit. p. 122 ; Robinson, p. 183.

A single male from Krongmon, Trang, 17th February, 1910.

+ 127. Chrysophlegma humii.

Chrysophlegma humii Hargitt, tom. cit. p. 126.

Two or three specimens only were collected in Trang.

+ 128. Iyngipicus canicapillus.

Iyngipicus canicapillus Blyth ; Hargitt, tom. cit. p. 322.

A single specimen of this species, usually a coastal form, was shot in the interior of Trang. It shews no approach to the rather smaller species, with the central rectrices unspotted, described from the north of the Peninsula, *I. pumilus*, Hargitt.

129. Pyrrhopicus porphyromelas.

Lepocestes porphyromelas (Boie) ; Hargitt, tom. cit. p. 382.

Fairly common everywhere, and having a greater range in altitude than almost any other of the Malayan Woodpeckers.

✓ 130. Miglyptes grammithorax.

Miglyptes grammithorax (Malh.) ; Hargitt, tom. cit. p. 385 ; Robinson, p. 182.

Very common in orchard land throughout the Peninsula, especially affecting the trunks of the Jack-fruit tree (*Artocarpus integrifolia*).

+131. Tiga javanensis.

Tiga javanensis (Ljung); Hargitt, tom. cit. p. 412.

Fairly common on the coast throughout the Peninsula, and almost invariably found in cocoa-nut groves.

+132. Chrysocolaptes gutticristatus.

Chrysocolaptes gutticristatus (Tick.); Hargitt, tom. cit. p. 448.

Common in the northern portions of the Peninsula and also, curiously enough, in the Rhio Archipelago, south of Singapore, but decidedly rare in the intervening country.

+133. Chrysocolaptes validus.

Chrysocolaptes validus (Temm.); Hargitt, tom. cit. p. 458.

Common nearly everywhere; an exceedingly noisy bird.

+134. Hemicercus sordidus.

Hemicercus sordidus (Eyton); Hargitt, tom. cit. p. 482; Robinson, p. 183.

Rather scarce, but widely distributed throughout the Peninsula. *Hemicercus canente* is also found in the extreme north of the Peninsula, but we did not meet with it.

+135. Alophonerpes pulverulentus.

Hemilophus pulverulentus (Temm.); Hargitt, tom. cit. p. 494.

Not uncommon in certain localities, especially on Langkawi and Terutau, but very uncertain in its distribution. Only found, as a rule, in very lofty jungle, usually in the low country.

+136. Thriponax javensis.

Thriponax javensis (Horsf.); Hargitt, tom. cit. p. 498.

Also local and somewhat rare, generally in low swampy jungle, and even in the mangroves, but occasionally found far inland among the foot-hills, though never in the high mountains.

137. SASIA ABNORMIS.

Sasia abnormis (Temm.); Hargitt, tom. cit. p. 557.

Sasia everetti Hargitt, tom. cit. p. 559, pl. xv.; Hartert, Nov. Zool. ix. p. 547 (1902); Robinson, p. 184.

Fairly common in Trang. Mr. Hargitt described a bird in immature plumage from Borneo as *S. everetti*, and Mr. Hartert has retained the name on account of the slightly larger beak possessed by Malayan and Bornean birds, the type-locality of the species being Java, but we doubt whether the distinction can be maintained.

PITTIDÆ.

138. PITTA CÆRULEA.

Pitta cærulea (Raffles); Sclater, Cat. Birds Brit. Mus. xiv. p. 416 (1888).

Our men secured five specimens in the interior of Trang. With the exception of two examples obtained about 1888 in the coastal province of Larut, Perak, now in the Federated Malay States Museum, no recent collector has met with this species in the Malay Peninsula, though it is fairly well represented in the British Museum by "Malacca" trade-skins. It is probably commoner in the northern parts of the Peninsula, which have been very little searched of late years.

Our Dyaks describe it as having in the main the habits of other species of the genus, but to be a bird of much more active flight, which accords with Davison's observations.

139. PITTA CYANOPTERA.

Pitta cyanoptera Temm.; Sclater, tom. cit. p. 420.

Scarce at Chong, Trang; common during the winter months on the smaller islands of the Straits of Malacca, but rarer on the mainland. Not unfrequently captured at night at the lighthouses and occasionally alighting on ships passing down the Straits.

140. PITTA MEGARHYNCHA.

Pitta megarhyncha Schleg.; Sclater, tom. cit. p. 431.

This species is decidedly rare in the Peninsula and appears to keep to the littoral mangrove belt. We have obtained it from Pulau Terutau in March, Pulau Karimon and Pulau Bintang in the Rhio Archipelago, south of Singapore, in August and June, while there is an old mounted specimen labelled "Pahang" in the Selangor Museum.

141. PITTA CUCULLATA.

Pitta cucullata Hartl. ; Sclater, tom. cit. p. 442.

A single specimen from Trang.

Like *P. cyanoptera* this species is common on the small islands during the winter, but is also found inland in considerable numbers, especially at the base of the limestone hills.

142. EUCICHLA BOSCHI.

Eucichla boschi (Müll. & Schleg.) ; Sclater, tom. cit. p. 447.

Exceedingly common wherever met with, but very local in its habits. We have specimens from several localities in Trang and from Larut, in Central and Lenggong and Temengoh in Upper Perak, mostly from the vicinity of limestone hills. Ridley records it from the caves of Khota Glanggi on the Pahang River.

143. EUCICHLA GURNEYI.

Eucichla gurneyi (Hume) ; Sclater, tom. cit. p. 448.

This most beautiful species was the commonest of the genus in Trang, and we secured over thirty specimens from several localities in the State. It has not as yet been met with in any part of the Peninsula under British influence.

The only other member of the family found in the Peninsula is *Pitta coccinea* Eyton, which we have only come across in one locality, viz. Rantau Panjang, in the low-country jungle of Central Selangor, where it was not uncommon, as we both obtained a pair and saw several others on subsequent occasions. The species is probably normally an inhabitant of rather swampy jungle, in which our collecting-parties have not as yet done much work.

EURYLÆMIDÆ.

144. CALYPTOMENA VIRIDIS.

Calyptomena viridis Raffles; Sclater, Cat. Birds, Brit. Mus. xiv. p. 456.

Not numerous in Trang.

145. CYMBIRHYNCHUS MALACCENSIS.

Cymbirhynchus macrorhynchus (Gm.); Sclater, tom. cit. p. 468 (partim).

Cymbirhynchus malaccensis Salvad. Atti R. Accad. Tor. ix. p. 425.

Very common within the littoral belt, in Trang as in the rest of the Peninsula.

It is a curious but undoubted fact that no species of Broad-bill is known from any of the smaller islands in the vicinity of the shores, such as the Tioman group on the east coast and the Langkawis, Pulau Jarak, and the Sembilans and Aroa Islands in the Straits of Malacca. The family is represented, it is true, on Penang and Singapore Islands, but here the dividing Straits are not more than three or four miles across, much less in the case of Singapore.

The same is true of the Barbets.

146. EURYLÆMUS OCHROMELAS.

Eurylæmus ochromelas Raffles; Sclater, tom. cit. p. 465.

Scarce.

HIRUNDINIDÆ.

147. HIRUNDO JAVANICA.

Hirundo javanica Sparrm.; Sharpe, Cat. Birds Brit. Mus. x. p. 142 (1885).

A male from Langkawi, obtained in June.

The species is resident in the Peninsula throughout the year. It is most abundant on some of the outlying islands.

148. HIRUNDO BADIA.

Hirundo badia (Cass.); Sharpe, tom. cit. p. 166.

This exceedingly handsome Swallow is resident throughout the year in the Peninsula and is one of the very few lowland birds that are peculiar to the country. It is found only in the neighbourhood of the precipitous limestone hills and cliffs that are so characteristic a feature of the northern and central portions of the Peninsula. It nests among the rocks, generally at the entrance of or a little inside a cave, but we have not yet obtained the eggs.

MUSCICAPIDÆ.

149. HEMICHELIDON FULIGINOSA.

Hemichelidon sibirica (Gm.); Sharpe, Cat. Birds Brit. Mus. iv. p. 120 (1879) (part.); Robinson, p. 186.

Fairly common at low elevations at Chong, Trang, at the foot of the main dividing-line, which here attains no great height. In other parts of the Peninsula we have met with it only in the winter months at not less than 2700 feet.

150. ALSEONAX LATIROSTRIS.

Alseonax latirostris (Raffles); Sharpe, tom. cit. p. 127; Robinson, p. 187.

Seen in large numbers along with the foregoing species; also on Terutau and Langkawi in February and March.

151. CYORNIS MAGNIROSTRIS.

Siphia magnirostris (Blyth); Sharpe, tom. cit. p. 453.

One specimen sexed as female by the collectors, but probably an immature male, was shot on Chong Hill at about 2000 ft. on December 24th, and constitutes a new record for the Malay Peninsula.

152. CYORNIS SUMATRENSIS.

Siphia sumatrensis Sharpe, Cat. Birds B. M. iv. p. 451.

Cyornis sumatrensis Hartert, Nov. Zool. ix. p. 550 (1902).

This species has hitherto been known only from the type, a "Malacca" skin erroneously ascribed to Malacca, and Dr. Hartert's specimen from Sungei Lebeh in the lowlands of Kelantan. The following additional specimens are now before us:—

2 ♂, 2 ♀ ad. Chong, Trang, December, 1909.
♂ ad. Lamra, Trang, January 22nd, 1909.
♂ ad. Pulau Terutau, December 1907.
♀ vix. ad. Pulau Terutau, March 1909.
♂ ad., ♂ imm. Temengoh, Upper Perak, July 1909.
♀. Genting, near Kuala Lipis, Pahang, May 1910.
♂. Kuala Lumpur, Selangor, July 1907.

The males are distinguished from those of other allied species by their small size and by having the abdomen, under tail-coverts, axillaries, and under wing-coverts pure white, the orange of the breast is sharply defined from the white belly, and there is only a very small black chin-spot.

The female, which has not hitherto been described, has the upper surface bluish grey, bluer on the upper tail-coverts and tail, sides of the head greyish, with a white or buffy-white ring round the eye; remainder of the under surface, as in the male but the rufous of the breast is duller.

153. CYORNIS DIALILÆMA.

Cyornis dialilæma Salvad. Ann. Mus. Civ. Gen. xxvii. p. 387 (1889).

Cyornis tickelli (ex Kossoom), Oates, Faun. Brit. Ind., Birds, ii. p. 25 (1890).

We have with some doubt referred the four specimens from Kossoom mentioned by Oates *loc. cit.* and eight more skins from Trang to this species, which can only be regarded as a southern race of *C. tickelli*. The whole genus, however, is in a very unsatisfactory state and is much in need of revision. The present form is also closely allied to *C. sumatrensis*, from which it differs in the greater extent of black on the chin and in having the flanks and under tail-coverts tinged with fulvous.

There is probably a third undescribed species represented in the Trang collection, allied to *C. nigrigularis* of Borneo and Sumatra, but the material at our disposal is at present not sufficient to justify the bestowal on it of a name.

154. POLIOMYIAS LUTEOLA.

Poliomyias luteola (Pall.); Sharpe, Cat. Birds B. M. iv. p. 201; Robinson, p. 188.

A winter visitor to the Peninsula, and abundant in certain districts from November to March.

The specimen of *Erythromyias muelleri* noted (Robinson, p. 188) as found dead on the coast of Kuantan, Pahang, which was obtained by Mr. W. H. Craddock and identified by the late Col. Bingham, turns out on examination of the skin to belong to this species.

155. CYANOPTILA CYANOMELÆNA.

Xanthopygia cyanomelæna (Temm.); Sharpe, Cat. Birds B. M. iv. p. 251; Robinson, p. 189.

A fine adult male was shot on Pulau Terutau by one of our collectors in March 1909. The species is evidently a rare winter visitor to the Peninsula.

156. HYPOTHYMIS AZUREA.

Hypothymis azurea (Bodd.); Sharpe, tom. cit. p. 274; Robinson, p. 189.

Evidently rare in Trang, where we got only two or three specimens. In the lowlands of Perak and Selangor it is one of the commonest members of the family.

157. TERPSIPHONE AFFINIS.

Terpsiphone affinis (Blyth); Sharpe, tom. cit. p. 349; Robinson, p. 190.

The Burmese Paradise Flycatcher is a common resident throughout the Peninsula south to Singapore, though its numbers are probably increased during the winter months by migrants from the north.

The two other species of this genus found in the Peninsula, *T. incii* Gould and *T. princeps* (Temm.), are both somewhat rare winter visitors.

158. PHILENTOMA PYRRHOPTERUM.

Philentoma pyrrhopterum (Temm.); Sharpe, tom. cit. p. 366; Robinson, p. 190.

Only one specimen was obtained in Trang. The species is everywhere rather scarce and not nearly so generally distributed as its congener *P. velatum*.

+ 159. STOPAROLA THALASSINOIDES.

Stoparola thalassinoides (Cab.); Sharpe, tom. cit. p. 439; Robinson, p. 191.

Several specimens were obtained in Trang.

Since the date of my paper quoted above, we have obtained examples of this species in considerable quantities at two localities on the main range—Ulu Gombak in Selangor and Temengoh in Upper Perak. All appear to be referable to this form and not to the duller northern race *S. melanops*, which is of very doubtful occurrence in the Peninsula.

+ 160. MUSCITREA GRISOLA.

Pachycephala grisola (Blyth); Gadow, Cat. Birds Brit. Mus. viii. p. 220 (1883).

Muscitrea grisola Oates, Faun. Brit. Ind., Birds, ii. p. 31 (1890).

We have obtained this somewhat rare Flycatcher from three localities, viz., the Langkawi group, Tanjong Karang on the coast of Selangor, and Singapore Island. In all cases the birds were shot on the edge of or in the middle of mangrove swamps, which probably accounts for its comparative rarity in collections.

CAMPOPHAGIDÆ.

+ 161. CAMPOPHAGA NEGLECTA.

Campophaga neglecta (Hume); Sharpe, Cat. Birds B. M. iv. p. 68 (1879); Oates, Faun. Brit. Ind., Birds, i. p. 493 (1889).

A few specimens were obtained in the interior of Trang in January 1909.

The species is replaced in other and more southern parts of the Peninsula by the closely allied *Lalage culminata* (A. Hay).

+ 162. PERICROCOTUS FLAMMIFER.

Pericrocotus flammifer Hume; Sharpe, tom. cit. p. 74; Robinson, p. 192.

Evidently common at Trang at low levels. In the remaining parts of the Peninsula the species is very numerous at medium elevations, 1500–3000 feet, but is rare above and below that level. At high elevations the prevalent species is *P. montanus* Salvad., while *P. igneus* is found in the low country and on the coast.

+ 163. PERICROCOTUS CINEREUS.

Pericrocotus cinereus Lafr.; Sharpe, tom. cit. p. 83.

A migrant; common along the coast of the Peninsula, south to Malacca, during the winter months.

PYCNONOTIDÆ.

+ 164. ÆGITHINA VIRIDISSIMA.

Ægithina viridissima (Bp.); Sharpe, Cat. Birds Brit. Mus. vi. p. 6 (1881).

+ 165. ÆGITHINA TIPHIA.

Ægithina tiphia (Linn.); Sharpe, tom. cit. p. 7.

Both these Ioras are probably common enough in Trang, but our collections contain only a single specimen of each.

+ 166. ÆTHORHYNCHUS LAFRESNAYI.

Æthorhynchus lafresnayei (Hartl.); Sharpe, tom. cit. p. 14; Robinson, p. 192.

Commoner in Trang than in any other locality in which we have found the species.

A jungle-bird, in contradistinction to *Ægithina tiphia*, which inhabits orchards and cultivated land.

+ 167. CHLOROPSIS ZOSTEROPS.

Chloropsis zosterops Vig.; Sharpe, tom. cit. p. 24; Robinson, p. 193.

Exceedingly common at Chong and well distributed over the whole of the Peninsula at medium and low elevations.

+ 168. CHLOROPSIS CHLOROCEPHALA.

Chloropsis chlorocephala (Wald.); Sharpe, tom. cit. p. 28.

As common as *Ch. zosterops*; not found in the south of the Peninsula, where it is replaced by *Ch. icterocephala* (Less.).

169. CHLOROPSIS CYANOPOGON.

Chloropsis cyanopogon (Temm.); Sharpe, Cat. Birds B. M. vi. p. 32; Robinson, p. 193.

Rare in Trang.

170. IRENA CYANEA.

Irena cyanea Begbie; Sharpe, tom. cit. p. 179; Robinson, p. 193.

Common in Pulau Langkawi and Pulau Terutau and in the Peninsula generally south of Trang.

171. IRENA PUELLA.

Irena puella (Lath.); Sharpe, tom. cit. p. 177.

Exceedingly abundant in the open park at Chong, flying in small flocks of five and six.

This "species" replaces *I. cyanea* in the northern parts of the Peninsula. The differences are very trivial, the present bird having much shorter under tail-coverts.

172. HEMIXUS CINEREUS.

Hemixus cinereus (Blyth); Sharpe, tom. cit. p. 52; Robinson, p. 193.

Only two specimens were obtained of this species, which is found only in the Malay Peninsula and Sumatra, not extending to Tenasserim.

173. HEMIXUS MALACCENSIS.

Hemixus malaccensis (Blyth); Sharpe, tom. cit. p. 52; Robinson, p. 194.

Also rare in Trang.

The Bulbuls of this genus are forest and jungle birds, and are not found in orchards and cultivated land like the species of *Pycnonotus* and some others, notably *Otocompsa emeria* and *Trachycomus ochrocephalus*.

174. IOLE OLIVACEA.

Iole olivacea Blyth; Sharpe, tom. cit. p. 55; Robinson, p. 194.

Three specimens of this species collected in Trang are perfectly typical and do not approach the greener Tenasserim bird *I. viridescens* Blyth, as might perhaps be expected.

+175. MICROPUS MELANOCEPHALUS.

Microtarsus melanocephalus (Gm.) ; Sharpe, tom. cit. p. 65.

Swarming in the gardens at Chong on almost every tree, and very common throughout the Peninsula in suitable localities.

+176. CRINIGER TEPHROGENYS.

Criniger tephrogenys (Jard. & Selby) ; Sharpe, tom. cit. p. 71 (footnote) ; Robinson, p. 194.

Fairly numerous, more so than the next species.

+177. CRINIGER SORDIDUS.

Criniger sordidus Richmond, Proc. U.S. Nat. Mus. xxii. p. 320 (1900).

Criniger ochraceus (partim) Robinson, p. 195.

This species, originally described from Trang, can perhaps be differentiated from *C. ochraceus* of more southern localities by its browner ear-coverts and by having the white of the throat less sharply defined from the rest of the under parts, but the distinctions are extremely fine. We have it from Langkawi as well as from Trang, and have examined one of Richmond's typical series, which is now in the Selangor Museum.

+178. ALOPHOIXUS PHÆOCEPHALUS.

Alophoixus phæocephalus (Hartl.) ; Oates, Faun. Brit. Ind., Birds, i. p. 259 (1889) ; Robinson, p. 195.

Criniger phæocephalus (Hartl.) ; Sharpe, tom. cit. p. 74.

+179. TRICHOLESTES CRINIGER.

Tricholestes criniger (Blyth) ; Sharpe, tom. cit. p. 89 ; Robinson, p. 195.

Both these species are poorly represented in our Trang Collection, and are probably rare in the State.

+180. PYCNONOTUS ANALIS.

Pycnonotus analis (Horsf.) ; Sharpe, tom. cit. p. 140.

In the south of the Peninsula this is the commonest garden bird next to *Copsychus musicus*, while *Otocompsa emeria* is almost unknown. In the north the position is quite reversed, and while *Otocompsa* was everywhere in evidence we only came across two or three specimens of the Yellow-vented Bulbul.

181. PYCNONOTUS FINLAYSONI.

Pycnonotus finlaysoni Strickl.; Sharpe, tom. cit. p. 144; Robinson, p. 195.

Rather rare in the south, but very common in Trang and Pulau Terutau and Langkawi.

182. PYCNONOTUS PLUMOSUS.

Pycnonotus plumosus Blyth; Sharpe, tom. cit. p. 152.

183. PYCNONOTUS SIMPLEX.

Pycnonotus simplex Less.; Sharpe, tom. cit. p. 153; Robinson, p. 196.

184. PYCNONOTUS SALVADORII.

Pycnonotus pusillus, Salvad.; Sharpe, tom. cit. p. 155.

All three of these Bush-Bulbuls are represented in the collections. They are very generally distributed throughout the Peninsula, the first-mentioned being the rarest of the three.

185. OTOCOMPSA EMERIA.

Otocompsa jocosa (Linn.); Sharpe, tom. cit. p. 157.

This attractive Bulbul was exceedingly common at Trang, and, as I have noted above, appears to take the place of *Pycnonotus analis* of the southern States.

The bird is exceedingly proud of its crest, and takes every opportunity of displaying it, selecting a bare twig at the top or on the side of a tree and erecting its crest vertically over its head in the manner of a Lapwing. This species is much admired by the natives, and is not a uncommon cage-bird among the Chinese of Penang. Indeed at a recent "Agri-Horticultural" show a specimen of it received the first prize as the rarest and finest cage-bird in the show. The judges evidently were not ornithologists and were apparently ignorant of the fact that the bird was on free view daily in their own gardens!!

+186. RUBIGULA WEBBERI.

Rubigula webberi (Hume); Sharpe, tom. cit. p. 171; Robinson, p. 196.

Fairly common at Trang.

In the paper quoted above we stated that we had only seen one specimen of this species from the Western Federated Malay States, but before the paper had been actually issued we had obtained some dozens of the species from two widely separated localities, Temengoh in Upper Perak and Ulu Gombak in Selangor, at altitudes of about 1000–1500 feet. The species is exceedingly fond of the fruit of certain figs, and when such a tree bearing ripe fruit is discovered any number of the birds can be obtained.

TIMELIIDÆ.

+187. POMATORHINUS OLIVACEUS.

Pomatorhinus olivaceus Blyth; Sharpe, Cat. Birds Brit. Mus. vii. p. 414 (1883).

By no means common, only three or four specimens having been obtained; replaced by *P. wrayi* Sharpe in the mountains of the central and southern portion of the Peninsula, and by *P. borneensis* Cab. in the lowlands.

+188. PELLORNEUM SUBOCHRACEUM.

Pellorneum subochraceum Swinh.; Sharpe, tom. cit. p. 521; Oates, Faun. Brit. Ind., Birds. i. p. 143 (1889).

Very common among brushwood and low secondary jungle near the ground, and also met with in the Langkawi Archipelago. The species is very rare south of Taiping, but is fairly numerous near that town; the most southerly locality known is Slim in Southern Perak.

+189. TURDINUS ABBOTTI.

Turdinus abbotti (Blyth); Sharpe, tom. cit. p. 541; Robinson, p. 198.

Rather scarce in Trang and on Langkawi; more abundant in the south, together with the allied *T. sepiarius*.

190. TURDINUS MACRODACTYLUS.

Turdinus macrodactylus (Strickl.); Sharpe, tom. cit. p. 548; Robinson, p. 199.

Very local in distribution throughout the Peninsula, Trang being the northern limit of the species. It keeps to dense jungle and is, together with *T. loricatus*, more terrestrial and less arboreal in its habits, as indicated by the large and powerful feet.

191. ERYTHROCICHLA BICOLOR.

Erythrocichla bicolor (Less.); Sharpe, tom. cit. p. 551.

Widely distributed in the low country; commonest in the central portions of the Peninsula.

192. DRYMOCATAPHUS NIGRICAPITATUS.

Drymocataphus nigricapitatus (Eyton); Sharpe, tom. cit. p. 554; Robinson, p. 200.

Rare in Trang.

193. DRYMOCATAPHUS TICKELLI.

Drymocataphus tickelli (Blyth); Sharpe, tom. cit. p. 557; Robinson, p. 200.

Fairly common in Trang.

Widely distributed throughout the Peninsula as far south as Selangor from the foot of the range up to about 4000 feet, principally in bamboo jungle.

194. SETARIA MAGNIROSTRIS.

Turdinus magnirostris (Moore); Sharpe, tom. cit. p. 547.

Setaria magnirostris Robinson, p. 200.

Widely distributed throughout the Peninsula up to about 2500 feet and on Pulau Tioman.

195. ANUROPSIS MALACCENSIS.

Anuropsis malaccensis (Hartl.); Sharpe, tom. cit. p. 588; Robinson, p. 200.

This bird approaches the northern limit of its range in Trang, only two specimens having been obtained in the interior of the State.

196. TURDINULUS GRANTI.

Turdinulus exsul (part.), Grant, Ibis, 1895, p. 60.

Turdinulus humei Hartert, Nov. Zool. ix. p. 564 (1902); Robinson, Journ. Fed. Malay States Mus. i. p. 26 (1905).

Turdinulus granti Richmond, Proc. U.S. Nat. Mus. xxii. p. 320 (1900); Robinson, p. 201.

We made a special point of obtaining a series of this species and secured about seven specimens. As Mr. Grant has noted, they are quite conspecific with the specimens from more southern localities described by Mr. Hartert as *T humei.* Throughout its range, which extends to Southern Johor, the species is fairly common in certain localities up to about 2600 feet. Above this altitude its place is taken by *Corythocichla leucosticta* Sharpe, which is identical with it in habits.

197. CORYTHOCICHLA LEUCOSTICTA.

Corythocichla leucosticta Sharpe, P. Z. S. 1887, p. 438; Robinson, p. 201.

Two specimens from the interior of Trang agree exactly with a series from the mountains of Perak, Selangor, and Pahang, and shew no approach to *Corythocichla striata.*

198. ALCIPPE CINEREA.

Alcippe cinerea Blyth; Sharpe, Cat. Birds B.M. vii. p. 622; Robinson, p. 201.

Rare, only two specimens were obtained.

199. ALCIPPE PHAYRII.

Alcippe phayrei Blyth; Sharpe, tom. cit. p. 623.

We did not ourselves obtain examples of this species; there is, however, in the Selangor Museum, a pair, obtained in exchange from the United States National Museum, collected by Dr. Abbott in the State.

200. STACHYRIS DAVISONI.

Stachyris davisoni Sharpe, Bull. B. O. C. i. p. vii (1892); Robinson, p. 202.

We obtained two specimens of this Babbler on the hills above Chong. They agree exactly with the original type and with other specimens from the typical locality and various places in the Southern Malay Peninsula. *Stachyris davisoni*, however, intergrades with the Himalayan *S. nigriceps* Hodgs., and specimens from Northern Tenasserim are very difficult to assign to the one or the other.

+ 201. STACHYRIS POLIOCEPHALA.

Stachyris poliocephala (Temm.); Sharpe, Cat. Birds B. M. vii. p. 534; Robinson, p. 202.

+ 202. STACHYRIS NIGRICOLLIS.

Stachyris nigricollis (Temm.); Sharpe, tom. cit. p. 535; Robinson, p. 202.

Both these species were evidently rather rare in Trang, though they are very common in the southern States.

+ 203. KENOPIA STRIATA.

Kenopia striata (Blyth); Sharpe, tom. cit. p. 573.

Our men obtained two specimens in Trang, but though the type was from Singapore, we have no specimens from Perak or Selangor.

+ 204. MIXORNIS GULARIS.

Mixornis gularis (Raffles); Sharpe, tom. cit. p. 576; Robinson, p. 203.

Common in the Langkawi group, whence the specimens shew a decided approach to the Indian and Burmese *M. rubricapilla*. A single specimen from Trang much more closely resembles *M. gularis* from the southern portions of the Peninsula.

+ 205. CYANODERMA ERYTHROPTERUM.

Mixornis erythroptera (Blyth); Sharpe, tom. cit. p. 580.

Rare in Trang, but common, especially in the coastal districts, in the more southern portion of the Peninsula.

+ 206. MYIOPHONEUS CRASSIROSTRIS.

Myiophoneus crassirostris Robinson, Bull. B. O. C. xxv. p. 98 (1910).

This species is only slightly differentiated from the Burmese *M. eugenei* Hume, from which it is separated principally by its very much coarser bill. With regard to the two other Malayan species, it can be at once distinguished from *M. robinsoni*, confined to the high mountains, by its very much larger size, and from *M. dicrorhynchus*, which is also found in Sumatra, by its much more brilliant coloration.

The species is very common on Langkawi and Terutau, whence we have received large series, and less abundant in Trang, where only three or four were collected. Like the other species of the genus it keeps to rocky hills and gullies covered with deep jungle. *M. dicrorhynchus*, the species with which we are best acquainted, is common on the limestone cliffs near Kuala Lumpur, where it feeds on snails. Their shells are broken on the rocks, each bird apparently using one particular spot for the purpose, with the result that large piles of debris accumulate.

207. HERPORNIS ZANTHOLEUCA.

Herpornis zantholeuca Hodgs.; Sharpe, tom. cit. p. 636.

A single specimen was obtained on the Langkawi group in the earlier part of 1909. Elsewhere on the Peninsula the species is common at medium elevations, being met with in small flocks on the smaller trees.

TURDIDÆ.

208. GEOCICHLA CITRINA.

Geocichla citrina (Lath.); Seebohm, Cat. Birds Brit. Mus. v. p. 172 (1881).

A large series of this and the succeeding species was collected at various places in Trang during December, January, and February. We have also obtained it from Langkawi and Terutau in the months of February and March.

209. GEOCICHLA INNOTATA.

Geocichla innotata (Blyth); Seebohm, tom. cit. p. 176; Oates, Faun. Brit. Ind., Birds, ii. p. 141 (1890); Robinson, p. 206.

A few specimens from Trang lack the white spots to the wing-coverts and are therefore referable to this species; the character, however, is so variable that we rather doubt if the form can be maintained even as a subspecies. It is significant that in the southern part of its range the species is one of the most extreme rarity, and that no recent collector has met with it, though it has been specially searched for during the last seven years. The British Museum possesses no exactly localized or authenticated specimens from any peninsular locality other than "Malacca," which is vague and unsatisfactory.

+210. TURDUS OBSCURUS.

Merula obscura (Gm.); Seebohm, Cat. Birds Brit. Mus. v. p. 273.

Quite common in Trang, more so than further south.

211. PETROPHILA SOLITARIA.

Monticola solitaria (Müll.); Seebohm, tom. cit. p. 319.

Petrophila solitaria Robinson, p. 207.

A single specimen was shot at Kantan, Trang, near the coast of Trang, in December.

We have examples of this species also from Pulau Pandan, between Langkawi and Terutau. It has not been recorded from anywhere south of the Larut Range in Perak.

212. HYDROCICHLA FRONTALIS.

Hydrocichla frontalis (Blyth); Sharpe, Cat. Birds Brit. Mus. vii. p. 321 (1883).

Ko-khau, Trang, North Malay Peninsula, January 10th, 1910.

Rarer than *Henicurus schistaceus* and *Hydrocichla ruficapilla*, the only other Fork-tails whose occurrence in the Peninsula rests on well-authenticated specimens, the records of *Henicurus leschenaulti* and *H. sinensis* being open to very considerable suspicion.

+213. LARVIVORA CYANEA.

Erithacus cyaneus Seebohm, Cat. Birds B. M. v. p. 303; Robinson, p. 207.

Very numerous in all the inland localities in Trang.

A winter visitor to the Malay Peninsula, generally distributed but commoner on the hills than in the plains.

+214. COPSYCHUS MUSICUS.

Copsychus musicus (Raffles); Robinson, p. 208.

Copsychus saularis (partim) Sharpe, Cat. Birds B. M. vii. p. 61.

Though it occurs in Trang, the Dial-bird, or Straits Robin, is much rarer than in Selangor, where it is the commonest and most familiar of garden birds.

It was met with, though sparingly, on the Langkawi Islands.

215. CITTOCINCLA MACRURA.

Cittocincla tricolor (Vieill.); Sharpe, tom. cit. p. 85.

Cittocincla macrura (Gm.); Robinson, p. 208.

Common, both at Trang and on the Langkawis.

The Shama is another of the Malayan birds that is especially numerous on the outlying islands, probably because they afford the rocky jungle-covered hill-sides that the bird generally frequents. On Pulau Tioman, off the east coast of the Peninsula, it is so numerous as to be almost the dominant species.

SYLVIIDÆ.

+ 216. PHYLLOSCOPUS TENELLIPES.

Phylloscopus tenellipes Swinh.; Seebohm, Cat. Birds B. M. v. p. 46 (1881).

Acanthopneuste tenellipes Oates, Faun. Brit. Ind., Birds, i. p. 416 (1889).

Two specimens of a Pale-legged Willow-Warbler obtained at Chong and on the hills above it agree perfectly with the series of this species in the British Museum from Tenasserim and China. The present locality is the most southerly recorded for the species.

+217. PHYLLOSCOPUS BOREALIS.

Phylloscopus borealis (Blas.); Seebohm, tom. cit. p. 40.

Acanthopneuste borealis Oates, tom. cit. p. 412.

Four or five specimens were obtained. The species is the most generally distributed of the genus in the Malay Peninsula, but they are all rare except in the extreme north.

+ 218. Phylloscopus superciliosus.

Phylloscopus superciliosus (Gm.); Seebohm, tom. cit. p. 68; Oates, tom. cit. p. 409.

Four specimens of this species, not hitherto recorded from the Malay Peninsula, though obtained in Trang by Dr. Abbott (*Richmond, in litt.*).

+ 219. Phylloscopus coronatus.

Phylloscopus coronatus (Temm. & Schleg.); Seebohm, tom. cit. p. 49.

Acanthopneuste coronata Oates, tom. cit. p. 416; Robinson, p. 208.

Three specimens only.

+ 220. Orthotomus ruficeps.

Orthotomus ruficeps (Temm.); Sharpe, Cat. Birds Brit. Mus, vii. p. 224 (1883).

♂. Chong, Trang, North Malay Peninsula, December 1909.

Decidedly a rare bird. In six years we have obtained two other specimens only, at Temengoh in North Perak, in August 1909, and at Cheras near Kuala Lumpur, Selangor, in March 1908.

+ 221. Orthotomus atrigularis.

Orthotomus atrigularis (Temm.); Sharpe, tom. cit. p. 220; Robinson, p. 208.

Not met with in Trang, but common in the Langkawi group of islands.

+ 222. Sutoria maculicollis.

Sutoria maculicollis (F. Moore); Sharpe, tom. cit. p. 218; Robinson, p. 208.

A female from Lam-ra in the interior of Trang, shot on January 22nd, was the only specimen obtained.

+ 223. Locustella lanceolata.

Locustella lanceolata (Temm.); Seebohm, Cat. Birds B. M. v. p. 118.

A single specimen was procured in the interior of Trang. Elsewhere in the Peninsula we have obtained this species on the hills, as well as on the coast of Selangor and in the Aroa Islands, in the middle of the Straits of Malacca, during the winter months.

224. FRANKLINIA RUFESCENS.

Cisticola beavani (Wald.); Sharpe, Cat. Birds B. M. vii. p. 225.

Franklinia rufescens (Blyth); Robinson, p. 208.

♀. Tap-tien, Trang, North Malay Peninsula, 1st December, 1909.

Widely distributed both in the mountains and plains, as far south as Selangor, during the winter months only.

STURNIDÆ.

225. EULABES JAVANENSIS.

Mainatus javanensis (Osbeck); Sharpe, Cat. Birds Brit. Mus. xiii. p. 102 (1890).

The large Mynah is fairly common in well-wooded country throughout the Peninsula, and was especially abundant on Pulau Tioman and on the Langkawi group. It is social in its habits, flying and feeding in parties of six or seven. It nests in holes in dead trees, usually very high up and generally inaccessible.

As elsewhere where the genus occurs, it is a favourite cage-bird, and can readily be taught to talk, clever birds commanding a very high price.

226. EULABES INTERMEDIUS.

Mainatus intermedius (A. Hay); Sharpe, tom. cit. p. 66; Bonhote, P. Z. S. 1901, p. 66.

We secured two specimens of the smaller Grackle in Trang, the first, curiously enough, that we have as yet obtained, though we have made a point of shooting one or two of the genus in every locality visited.

It is distinguishable at a glance from *E. javanensis* by its very much smaller size, especially in the bill, and by the form of the lappets, which are quite different in the two species.

Eulabes intermedius appears to be essentially a northern species, and though specimens from Klang, Malacca, and Singapore are catalogued by Sharpe as belonging to this species and not to *E. javanensis*, examination of them and also of the specimens from Kossoom shews that they are, on the whole, nearer to the latter species.

227. Æthiopsar fuscus.

Æthiopsar fuscus (Wagl.); Sharpe, tom. cit. p. 86.

Common on the plains of Trang.

This Mynah extends as far south as Taiping in Perak, where it is fairly common, and we have obtained a single specimen from Jeram on the Selangor coast, whence Davison also obtained it; but south of this it is unknown, the skin in the British Museum from Malacca (*Cantor*) being of uncertain origin.

It is known to Malays as the *burong gembala kerbau*, "the herdsman of the buffaloes," from the fact that wherever it is found in the Malay Peninsula it is, like the Cattle-Egret, almost invariably in attendance on domestic cattle.

228. Calornis chalybea.

Calornis chalybea (Horsf.); Sharpe, tom. cit. p. 143.

The Glossy Starling is widely distributed throughout the country, though in some localities it is comparatively scarce or even absent. In many places it takes possession of the houses, as does the English Starling, and nests in the eaves or under the roof. In other localities it makes its large untidy nests in the crowns of the areca palms. It is abundant on all the islands, especially Pulau Aor of the Tioman group, birds from that locality being distinguished by their exceptionally large bills.

229. Ampeliceps coronatus.

Ampeliceps coronatus Blyth; Sharpe, tom. cit. p. 116.

This handsome Golden-headed Mynah was found in large numbers in the interior of Trang, this being the southernmost recorded locality. It has also been obtained on the island of Salanga or Tongkah, rather to the north (*vide* Müller, J. f. O. 1882, p. 388).

LANIIDÆ.

+ 230. HEMIPUS PICATUS.

Hemipus picatus (Sykes); Sharpe, Cat. Birds Brit. Mus. iii. p. 307 (1877); Robinson, p. 209.

Numerous in Trang in orchards at low elevations.

Further south in the Peninsula in Selangor this species is only found at elevations over 3000 feet, *Hemipus obscurus* (Horsf.) being the low-country species. In North Perak at Temengoh in July both species were found together in jungle-country of no great elevation, while in Trang the present species alone was met with.

+ 231. TEPHRODORNIS GULARIS.

Tephrodornis gularis (Raffles); Sharpe, tom. cit. p. 278; Robinson, p. 209.

Very common at Trang and throughout the rest of the Peninsula to Singapore at medium elevations up to 2600 feet. Found in pairs or occasionally in small flocks and usually in very lofty trees.

+ 232. PLATYLOPHUS ARDESIACUS.

Platylophus ardesiacus (Cab.); Sharpe, tom. cit. p. 317; Robinson, p. 209.

Very abundant throughout the Peninsula in thick jungle, but not at any great height in the mountains.

+ 233. LANIUS CRISTATUS.

Lanius cristatus Linn.; Gadow, Cat. Birds Brit. Mus. viii. p. 271 (1883).

Immature birds of this species were very common in those parts of Trang visited by us. It is generally distributed throughout the Peninsula during the winter months, but adults are rare.

+ 234. LANIUS LUCIONENSIS.

Lanius lucionensis Linn.; Gadow, tom. cit. p. 274.

Very rare in the Peninsula; we have ourselves come across two specimens only—a female adult shot on Langkawi in March 1909 and an adult from Kuala Lumpur dated March 1907.

PARIDÆ.

+ 235. **MELANOCHLORA FLAVOCRISTATA.**

Melanochlora flavocristata (Lafr.); Hellmayr, Tierreich, Paridæ, p. 31 (1903); Robinson, p. 210.

Melanochlora sultanea (part.) Gadow, Cat. Birds Brit. Mus. viii. p. 6 (1883).

Mr. Hellmayr regards the Malayan form of the Sultan Tit as subspecifically distinct from the Himalayan and Burmese bird *M. sultanea* under the above given name, on account of its smaller size. He gives the wing as 100–107 mm., as against 110–115 mm. in the northern bird.

Five males from various parts of the Malay Peninsula measure from 98·5–104·5 mm. in the wing, as against an average of 112 mm. in a similar number of birds from Sikkim.

The species was rather scarce in Trang, and we only got three or four specimens. Elsewhere in the Peninsula it is widely distributed, chiefly in the foot-hills and up to about 3000 feet. It flies in small flocks in the jungle or at the edge of jungle clearings.

SITTIDÆ.

+ 236. **DENDROPHILA SATURATIOR.**

Sitta frontalis saturatior Hartert, Nov. Zool. ix. p. 573 (1902).

Dendrophila saturatior Robinson, p. 210.

This species occurs in Trang, whence we have a male obtained by Dr. Abbott and another from Lam-ra secured by our own men on January 26th, 1910.

Dr. Abbott's specimen is very pale beneath, almost matching true *D. frontalis* in this respect, but specimens from Bankasoon in the extreme south of Tenasserim are almost as dark as some of the darker Malayan specimens.

We have compared a series of about sixteen Peninsular specimens with the types of the species from Java and with other skins from the Himalayas, Central and Southern India, Burma, Assam, and Palawan, and find that the differences as noted by Dr. Hartert, viz. the much richer colouring of the upper and lower surfaces, are fairly constant. Curiously enough, a specimen from the type-locality of the subspecies, Gunong Tahan, is paler than any of the others.

The form is separated from *D. corallipes* of Borneo by its brownish-black feet, and from *D. ænochlamys* of some of the Philippine Islands by its red, not greenish beak, the uniform back and mantle, and the absence of a white loral spot.

CORVIDÆ.

+ 237. CORVUS MACRORHYNCHUS.

Corone macrorhynchus (Wagl.); Sharpe, Cat. Birds Brit. Mus. iii. p. 38 (1877).

The Common Jungle-Crow was very abundant in Trang and also in Langkawi and Terutau.

In the southern half of the Peninsula it is scarcer, being only seen in numbers on the coast in the vicinity of the fishing villages.

From Perak southwards to Johor the Slender-billed Crow, *Corvus enca* Horsf., occurs, but is very rare, only three or four specimens having been obtained.

+ 238. PLATYSMURUS LEUCOPTERUS.

Platysmurus leucopterus (Temm.); Sharpe, tom. cit. p. 90.

Fairly numerous in Trang in the secondary jungle, but not so common as in some of the more southerly districts. Known to Malays as the *burong kambing* (goat-bird) from its harsh call.

DICRURIDÆ.

+ 239. DISSEMURUS PARADISEUS.

Dissemurus paradiseus (Linn.); Sharpe, tom. cit. p. 225; Robinson, p. 211.

Very common everywhere throughout the Peninsula, especially in bamboo-forest.

Exceptionally numerous on certain of the smaller islands.

+ 240. DICRURUS ANNECTANS.

Dicrurus annectans (Hodgs.); Sharpe, tom. cit. p. 231; Robinson, p. 211.

Imm. Chong, Trang, N. Malay Peninsula, 7th December.

A migratory bird, common all over the Peninsula and the outlying islands during the winter months.

+ 241. DICRURUS LEUCOGENYS.

Buchanga leucogenys Walden; Sharpe, tom. cit. p. 251.

Dicrourus leucogenys var. *salangensis* Rchnw. Nomencl. Mus. Hein. p. 69 (1890).

The White-cheeked Drongo was abundant at most of the places visited in Trang, and is possibly resident there. It has been recorded from as far down the Peninsula as Malacca, but in the south it is a rare bird and probably only a winter visitor.

The variety *salangensis* described by Reichenow from the island of Salanga—or Tongkah, as it is more usually called—to the north of Trang, as having the sides of the face ashy and not white, is obviously based on an immature specimen. An adult from Salanga in the British Museum agrees in every respect with the typical specimens from Tenasserim and the mainland of the Peninsula.

ORIOLIDÆ.

+ 242. ORIOLUS INDICUS.

Oriolus indicus Jerd.; Hume, Stray Feathers, viii. p. 63 (1879); Oates, Birds Brit. Burm. i. p. 211 (1883).

Oriolus diffusus Sharpe, Cat. Birds Brit. Mus. iii. p. 197 (1878).

Fairly abundant at all our collecting-stations in Trang in December and January. The species is not resident in the Peninsula, only occurring during the winter months, and has not as yet been met with further south than Malacca.

+ 243. ORIOLUS MELANOCEPHALUS.

Oriolus melanocephalus Linn.; Sharpe, tom. cit. p. 215; Hume, Stray Feathers, viii. p. 156 (1879) (Tonka).

An adult male and an immature female, obtained on

Pulau Langkawi in March 1909, constitute the most southerly record for this species.

+ 244. ORIOLUS ZANTHONOTUS.

Oriolus zanthonotus Horsf.; Sharpe, tom. cit. p. 213.

Common over the greater portion of the Peninsula, but becoming rather scarcer to the north of the Peninsula and evidently rather rare in Trang.

MOTACILLIDÆ.

+ 245. MOTACILLA MELANOPE.

Motacilla melanope Pall.: Sharpe, Cat. Birds Brit. Mus. x. p. 497 (1885).

The Grey Wagtail was met with in flocks among the rice-fields at Chong in December.

It is found throughout the Malay Peninsula and outlying islands from August to April.

+ 246. MOTACILLA BOREALIS.

Motacilla borealis Sundev.; Sharpe, tom. cit. p. 523; Grant, Fasc. Malay Zool. iii. p. 71 (1905).

Budytes cinereocapillus (*nec* Savi), Hume, Stray Feathers, viii. pp. 65, 161 (1879).

A single young female was shot at Chong from among a number of *M. melanope*, the present form being very much rarer in the Peninsula than that species. The British Museum contains immature specimens from Ban Sai Kau and Nawnchik near Patani on the east coast of the Peninsula, shot in September and November; an adult from Kosoom, north of Trang, shot in April; and another adult from Klang, dated 20. vi. 79. Both the latter are in full breeding-plumage.

+ 247. LIMONIDROMUS INDICUS.

Limonidromus indicus (Gm.); Sharpe, tom. cit. p. 532: Robinson, p. 212.

One or two specimens were obtained, but in Trang, as elsewhere in the Peninsula, the Forest-Wagtail is by no means common, probably remaining for a short time only during the winter months. It may be of interest to record that on December 25th and 26th, 1908, the species occurred literally in thousands on the summit of the Larut Hills, Perak, at an elevation of 1500 feet, after wind and heavy rain. On the 26th not a single bird remained.

248. Anthus malayensis.

Anthus malayensis Eyton, P. Z. S. 1839, p. 104.

Anthus rufulus (part.), Sharpe, tom. cit. p. 574.

The Malayan Pipit, as everywhere else in the Peninsula, was abundant on the rice-fields and other open spaces in Trang.

249. Anthus maculatus.

Anthus maculatus Hodgs.; Sharpe, tom. cit. p. 547; Butler, Journ. Straits Branch Roy. Asiat. Soc. xxxii. p. 21 (1899); Robinson, p. 212.

Our men obtained two specimens of the Indian Tree-Pipit in low jungle near Chong in December 1909. With the exception of the specimens recorded by Butler (*loc. cit.*) from the Larut Hills in Perak, the species has not hitherto been obtained in the Malay Peninsula.

Nectariniidæ.

250. Æthopyga siparaja.

Æthopyga siparaja (Raffles); Gadow, Cat. Birds Brit. Mus. ix. p. 21 (1884).

♂. Chong, Trang, N. Malay Peninsula, Dec. 1909.
♂. Lamra, ,, ,, ,, Jan. 1910.

This Sun-bird is sparingly distributed throughout the Peninsula at low elevations from the Tenasserim border to Singapore. It is most common in the vicinity of the coast and on the small islands, especially at Singapore and Penang. Further in the interior, and at elevations up to about 3000 or 4000 feet, its place is taken by the succeeding species.

The specimens enumerated above, and indeed all those in the British Museum from the northern portion of the Peninsula, are not typical *Æ. siparaja*, but shew a marked approach to *Æ. cara* (Hume, 'Stray Feathers,' ii p. 473, 1874) in having the crown, upper tail-coverts, and tail strongly tinged with metallic greenish, not rich violet as in more southern specimens. The rump also is paler, less orange, yellow, but these characters are not very constant

251. ÆTHOPYGA TEMMINCKI.

Æthopyga temmincki (S. Müll.); Gadow, tom. cit. p. 16; Robinson, Journ. Fed. Malay States Mus. i. p. 28 (1905); id. op. cit. ii. p. 213 (1909).

♂. Hills above Chong, Trang, N. Malay Peninsula, Dec. 1909.

This species also is generally distributed throughout the Peninsula from the above mentioned locality, which is the northernmost recorded, to Gunong Angsi in Negri Sembilan. It is not met with in the low country nor, on the other hand, at great elevations, where the genus is represented by *Æ. anomala* or *Æ. wrayi*.

252. ÆTHOPYGA ANOMALA.

Æthopyga anomala Richmond, Proc. U.S. Nat. Mus. xxxii. p. 319 (1900); Robinson, p. 213.

We have not as yet ourselves obtained this species from Trang, but have before us a pair of the typical series collected by Dr. Abbott on Khau-nom-plu, a mountain in the State about 3000 feet high.

The species differs from *Æ. wrayi*, of the mountains of Perak, Selangor, and Pahang, only in lacking the yellow rump-band. The females of the two species are indistinguishable. *Æ. saturata*, with which its describer compared it, is a very much larger bird than *Æ. anomala*.

253. ANTHOTHREPTES SIMPLEX.

Anthothreptes simplex (S. Müll.); Gadow, tom. cit. p. 114.

Anthreptes xanthochlora Hume, Stray Feathers, iii. p. 320 (1875).

♂. Chong, Trang, N. Malay Peninsula, 9th December, 1909.

Iris chestnut-red; bill black; feet greenish, with soles yellowish.

This plain-coloured Sun-bird is a decidedly rare species in the Malay Peninsula, but is sparingly distributed from the northern border south to Klang in Selangor. It does not appear to have been obtained up to the present in Johor, and the Hume collection contains no specimens from that State. It is met with usually in pairs, and not in open country like its congener *A. malaccensis*.

The type of *A. xanthochlora* from Tenasserim is a rather small female, with the upper surface strongly tinged with yellow. It can, however, be matched by specimens from other parts of the range of *A. simplex*, and is probably an immature bird.

+ 254. ANTHOTHREPTES HYPOGRAMMICA.

Anthothreptes hypogrammica (S. Müll.); Gadow, tom. cit. p. 112; Robinson, p. 213.

Scarce in Trang, where it is approaching its northern limit, but widely distributed throughout the Peninsula.

+ 255. ANTHOTHREPTES RHODOLÆMA Shelley.

Anthothreptes rhodolæma Shelley, Mon. Nect. p. 313, pl. 101. fig. 1 (1878).

Anthothreptes malaccensis (partim) Gadow, tom. cit. p. 123.

This species, which is very different from the commoner *A. malaccensis* and at once distinguishable by the darker olive-green colour of the belly and the reddish ear-coverts, was exceedingly abundant at Chong, feeding in large numbers on trees in flower in the park.

It appears to be commoner in the northern districts, but is found sparingly throughout the Peninsula, south to Singapore, and whereas *A. malaccensis* is always found either near the sea or on cocoanut palms, the present form is met with further up country, and always in jungle or forest land.

— 256. ANTHOTHREPTES MALACCENSIS.

Anthothreptes malaccensis (Scop.); Gadow, tom. cit. p. 122.

Abundant in the cocoanut-groves of the Langkawi group.

+ 257. Leptocoma hasselti.

Cinnyris hasselti (Temm.); Gadow, tom. cit. p. 67.

Not rare along the coast and islands of the Malay Peninsula, but seldom, if ever, seen at any considerable distance inland.

Abundant at Pulau Terutau in December 1907 and March 1909, and met with sparingly at Trang.

+ 258. Cyrtostomus pectoralis.

Cinnyris pectoralis (Horsf.); Gadow, tom. cit. p. 83.

Both this and the following species are found in the northern parts of the Peninsula, *C. flammaxillaris* being not uncommon in the Langkawi group, while both occur in Trang.

+ 259. Cyrtostomus flammaxillaris.

Cinnyris flammaxillaris (Blyth); Gadow, tom. cit. p. 83.

260. Arachnothera longirostris.

Arachnothera longirostris (Lath.); Gadow, tom. cit. p. 103; Robinson, p. 213.

Only two or three specimens of this species were obtained. In the central and southern portions of the Peninsula it is very abundant, together with *A. modesta*, especially in the banana-plantations.

+ 261. Arachnothera modesta.

Arachnothera modesta (Eyton); Gadow, tom. cit. p. 107; Robinson, p. 214.

Quite the commonest species in the Peninsula generally. Very few, however, were met with in Trang, the larger and more powerful *A. robusta* and *A. flavigaster* appearing to monopolize the flowering trees, whence we obtained the majority of our specimens of this genus.

+ 262. Arachnothera chrysogenys.

Arachnothera chrysogenys Temm.; Gadow, tom. cit. p. 108.

Rather rarer in Trang than the other members of the genus and nowhere very abundant.

263. Arachnothera flavigaster.

Anthreptes flavigaster Eyton, P. Z. S. 1839, p. 105 (Malacca).

Arachnothera eytonii Salvad. Ann. Mus. Civ. Gen. v. p. 132 (1874) (Borneo).

Arachnothera simillima Hume, Stray Feathers, v. p. 487 (1877); id. op. cit. vi. p. 171 (1878).

Common along with other species of the genus in the park at Chong in December 1909. We have examined the type and two other specimens of *Arachnothera simillima*, all "Malacca" trade-skins. The characters in the bill on which the species is founded are obviously due to immaturity. Parallel cases occur in other species of the genus.

264. Arachnothera robusta.

Arachnothera robusta Müll. et Schleg.; Gadow, tom. cit. p. 101.

Quite common in Trang, but decidedly rare throughout the rest of the Peninsula, the British Museum possessing only three specimens, viz. from South Perak, Selangor, and Malacca.

Dicæidæ.

265. Dicæum cruentatum.

Dicæum cruentatum (Linn.); Sharpe, Cat. Birds Brit. Mus. x. p. 15 (1885).

Rather scarce, though a few specimens were met with at Chong. The species is in the main an inhabitant of the coastal zone, and becomes much rarer in the inland districts.

266. Dicæum trigonostigma.

Dicæum trigonostigma (Scop.); Sharpe, tom. cit. p. 38; Robinson, p. 214.

The commonest species of the family in Trang.

267. Dicæum chrysorrheum.

Dicæum chrysorrheum Temm.; Sharpe, tom. cit. p. 44.

Rather rare.

+ 268. Prionochilus ignicapillus.

Prionochilus ignicapillus (Eyton); Sharpe, tom. cit. p. 65.

+ 269. Prionochilus maculatus.

Prionochilus maculatus (Temm.); Sharpe, tom. cit. p. 69; Robinson, p. 215.

The species of this genus were not nearly so common as those of *Dicæum*, and were harder to get, as they seemed to frequent loftier trees.

270. Piprisoma modestum.

Prionochilus modestus (Hume); Sharpe, tom. cit. p. 32.

Piprisoma modestum Oates, Faun. Brit. Ind., Birds, ii. p. 383 (1890).

A single specimen was obtained among numerous others of the family at Chong in December. It is probably not uncommon in the State, as Dr. Abbott also obtained it, but from its sombre and inconspicuous coloration it is very liable to escape notice. The present locality is the most southerly recorded for the species, which certainly does not occur in that portion of the Malay Peninsula under British influence.

Zosteropidæ.

+ 271. Zosterops tahanensis.

Zosterops tahanensis Grant, Bull. B. O. C. xix. No. cxxvii. p. 10 (1906); Robinson, p. 215.

Very numerous at Chong on one particular tree, in company with large numbers of Bulbuls, Flower-peckers, and Sun-birds.

The species was originally described by Mr. Grant from a single specimen obtained on Gunong Tahan at an altitude of about 5000 feet, but it has since been found at several localities along the main range at lower elevations.

Nine specimens before us differ from *Z. aureiventer* Hume in the characters stated by Mr. Grant, while in addition the yellow of the throat is very much duller and the white ring round the eye somewhat narrower.

From *Z. palpebrosa*, which also occurs in the Peninsula, the species is at once differentiated by the yellow mesial streak on the abdomen and the absence of a yellowish-orange tinge on the forehead and in front of the eye.

III.—*List of Birds collected in Argentina, Paraguay, Bolivia, and Southern Brazil, with Field-notes.* By Claude H. B. Grant, M.B.O.U.—Part I. Passeres.

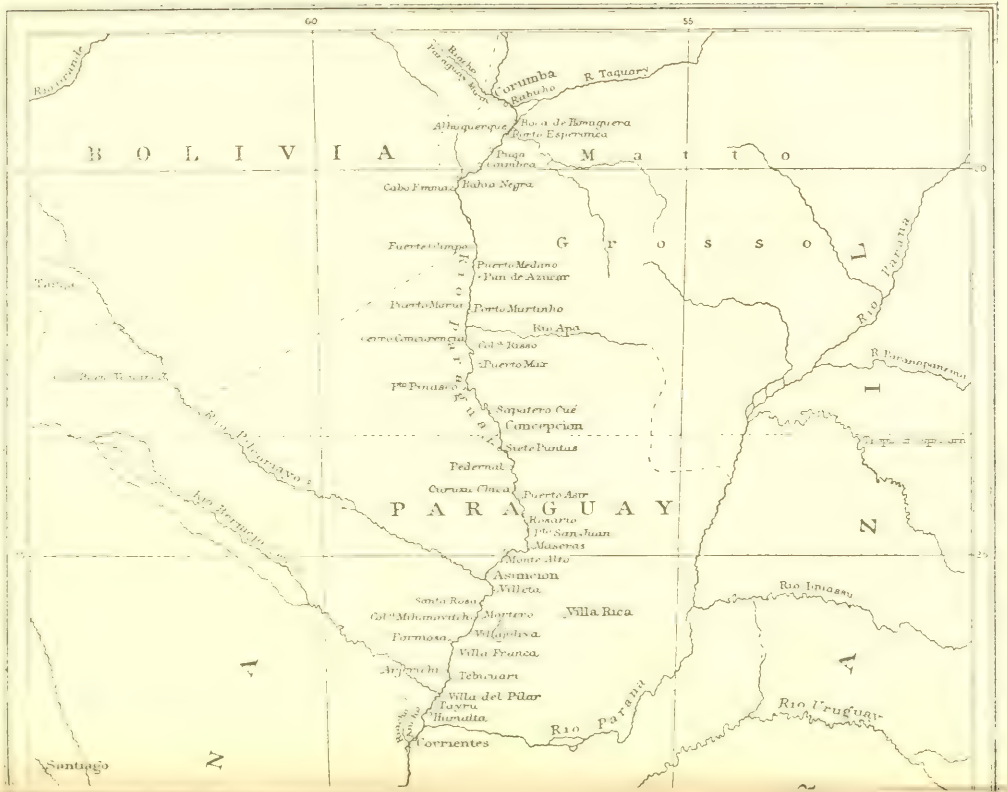
(Plate II.)

The collections on which this paper is based were made in various localities in Argentina, Paraguay, and Southern Brazil (see map, Plate II.). At Los Ynglases I collected in the Ajó district, some fifty miles to the south of Buenos Aires, between September 1908 and June 1909, and from December 11th, 1909, to March 11th, 1910, on behalf of the British Museum and Mr. Ernest Gibson, F.Z.S. I also visited the following localities in Northern Argentina, Paraguay, and the Matto Grosso district of Brazil (where I accompanied Mr. G. W. Tudor in his steam-launch 'Leda,' on an expedition up the Rio Paraná and Rio Paraguay), between the end of July and the middle of November 1909, when we proceeded as far north as Corumba in Matto Grosso:—

Northern Argentina.—Rosario, Santa Elena, Esquina, Goya, Bella Vista, Riacho Ancho, Colonia Mihanovitch.

Paraguay.—Humaita, Tayru, Villa del Pilar, Tebicuari, Arjerichi, Villa Franca, Villa Oliva, Mortero, Santa Rosa, Villeta, Monte Alto, Maseras, Puerto San Juan, Puerto Asir, Curuzu Chica, Sapatero Cué, Puerto Pinasco, Colonia Risso, Cerro Concurencia, Puerto Maria, Puerto Medano, Fuerte Olimpo, Cabo Emma, and Bahia Negra.

Bolivia.—The few miles of the river-bank that have now


60
55
20
25
BOLIVIA
Matto Grosso
PARAGUAY
Rio Grande
Riacho
Paraguay Mirim
Corumba
Rabuho
R. Taquary
Albuquerque
Boca de Tamuquera
Porto Esperança
Puga
Coimbra
Cabo Emmaa
Bahia Negra
Fuerte Olimpo
Rio Paraguay
Puerto Medano
Pan de Azucar
Puerto Maria
Porto Murtinho
Rio Apa
Cerro Concepcion
Colª Russo
Puerto Max
Pto Pinasco
Sapatero Cué
Concepcion
Siete Puntas
Pedernal
Curuzu Chica
Puerto Asu
Rosario
Pto San Juan
Maseras
Monte Alto
Asuncion
Villeta
Santa Rosa
Colª Mihanovitch
Mortero
Villa Rica
Formosa
Villaoliva
Villa Franca
Arjenchi
Tebicuari
Villa del Pilar
Tayru
Humaita
Riacho
Corrientes
Rio Parana
Rio Pilcomayo
Rio Bermejo
Santiago
Rio Parana
R. Paranapanema
Tropic of Capricorn
Rio Iguassu
Rio Uruguay
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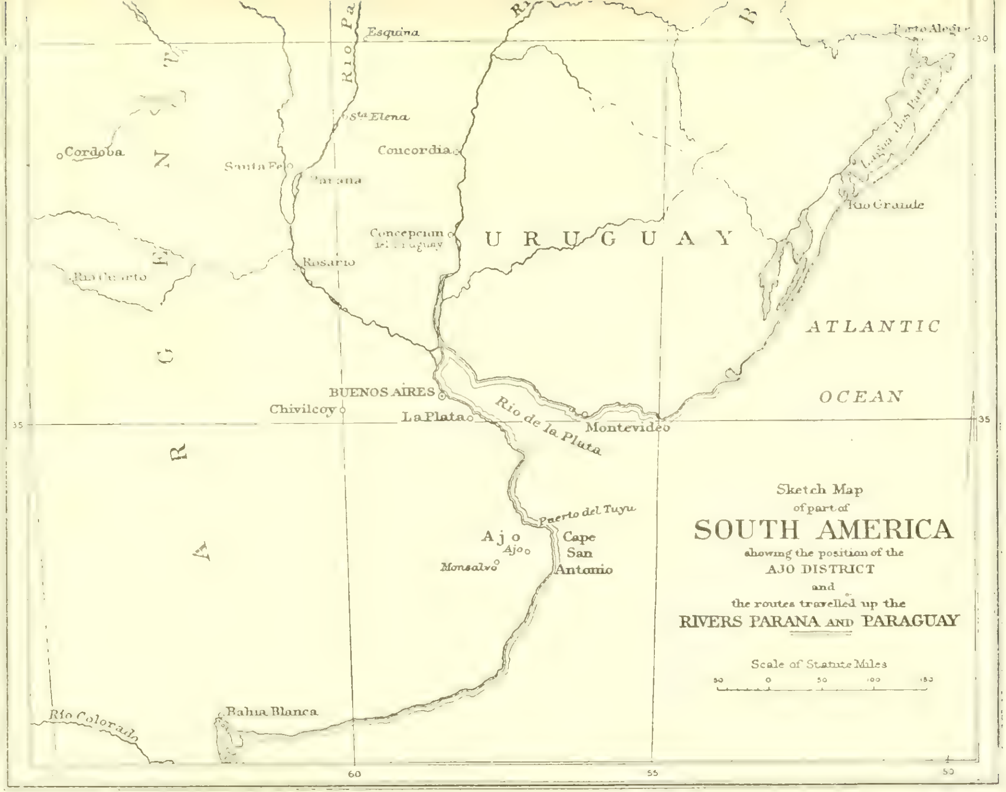

Sketch Map
of part of
SOUTH AMERICA
showing the position of the
AJO DISTRICT
and
the routes travelled up the
RIVERS PARANA AND PARAGUAY

Scale of Statute Miles
50
0
50
100
150
URUGUAY
ATLANTIC
OCEAN
Porto Alegre
Lagoa dos Patos
Rio Grande
Esquina
Rio Pa
Sta Elena
Concordia
Cordoba
Santa Fe
Parana
Concepcion del Uruguay
Rosario
Rio Cuarto
BUENOS AIRES
Chivilcoy
La Plata
Montevideo
Rio de la Plata
Puerto del Tuyu
Cape San Antonio
Ajo
Ajo
Monsalvo
Bahia Blanca
Rio Colorado
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Leonardson & Co

been conceded to Bolivia are between Bahia Negra and the fort of Coimbrá.

S. Brazil.—Rio Apa, Porto Martinho, Pan de Azucar, Coimbrá, Puga, Porto Esperança, Albuquerque, Boca de Homiguera, Rabicho, Riacho Paraguay, Mirin, Corumba.

The Ajó district is open grass camp or pampa, with a few Tala woods. It is intersected by great swamps which water the district, and, as might be expected, is rich in water-haunting birds. It is also a very interesting locality, inasmuch as it is about the southern limit of many woodland species common at Buenos Aires and to the northward, and is about the northern limit of many Patagonian species that migrate northward in the winter months.

On the Rio Paraná and Rio Paraguay the country is well wooded for the whole of the course traversed, especially after passing Corrientes, and at many of the ports there are large factories for the cutting of wood. Large lagunas and swamps are scattered over the country adjacent to the rivers. Until the Rio Apa is reached no hills are seen except for a few around Asuncion, but from the Rio Apa to Corumba chains of low hills covered with bush are met with. The passes through them by the Pan de Azucar (a conical hill of some 1600 feet above sea-level) are extremely pretty, and in many parts are covered with palms. Some of the most interesting sights on this trip were the numbers of colonies of breeding Terns, and I never cease to regret that, owing to the loss of my negatives, I was unable to get photographs of them.

In working out my collections I have had access to a series of birds and eggs made by Miss I. G. Runnacles at Los Ynglases in the Ajó district. I have included many of these in this paper, especially where a species is not represented in my series, so as to make the list as complete as possible. I have to thank Miss Runnacles for her kindness in allowing me to do this, and for the use of her notes. In all about two hundred species of birds are represented.

In every case I have given references to the 'Catalogue of

Birds in the British Museum' and to Sclater and Hudson's 'Argentine Ornithology,' while I have also cited several recent publications and papers.

The 'Catalogue of Birds in the British Museum' is quoted as "Cat. B." and Sclater and Hudson's 'Argentine Ornithology' as "Arg. Orn."

I have to tender my best thanks to Mr. Ogilvie-Grant for his kindness in facilitating my access to the collection of the British Museum, and to Mr. Charles Chubb of the same Institution for much valuable help.

1. TURDUS LEUCOMELAS.

Turdus leucomelas Seebohm, Cat. B. v. p. 213; Arg. Orn. i. p. 1.

Turdus amaurochalinus Hellmayr, J. f. O. 1902, p. 58.

a. ♂ ad. Villa Franca, Paraguay. Aug. 10, 1909.

b. ♀ ad. Porto Esperança, Brazil. Sept. 25, 1909.

Iris hazel; bill yellowish brown; legs and toes brownish horn-coloured.

The September specimen is very worn and bedraggled.

2. TURDUS RUFIVENTRIS.

Merula rufiventer Seebohm, Cat. B. v. p. 222.

Turdus rufiventris Arg. Orn. i. p. 3.

a, *b*. ♂ ad. Los Ynglases, Ajó. Sept. 10–14, 1908.

c, *d*, *e*, *f*, *g*. ♂ ♀ ad. ,, ,, Oct. 6–14, 1908.

h, *i*, *j*. ♂ ♀ ad. & yg. ,, ,, Nov. 6–24, 1908.

k. ♂ young. ,, ,, Jan. 5, 1909.

l. ♀ ad. ,, ,, March 15, 1909.

m. ♂ young. ,, ,, Feb. 14, 1910.

n, *o*. ♀ ad. Riacho Ancho, N. Argentine. July 30–31, 1909.

p. ♂ ad. Arjerichi, Paraguay. Aug. 9, 1909.

q. ♂ ad. Sapatero Cué, Paraguay. Sept. 3, 1909.

r. ♀ ad. Near Villa Franca, Paraguay. Nov. 6, 1909.

s. ♂ ad. Near Santa Elena, N. Argentine. Nov. 15, 1909.

Ad. Irides hazel; eyelid lemon-chrome; bill pale olive-green; legs and toes purplish brown.

Young. Bill paler than in the adult and yellow at the gape; legs and toes more ashy.

The October and November birds are worn, and the March bird has finished its moult.

The Red-bellied Thrush was observed everywhere, and has a lively and pretty song. On the Estancias at Ajó it unfortunately shews a great liking for the fruit, especially grapes, and is therefore somewhat of a nuisance.

The nest is composed of grass or moss &c., lined with mud and then with fine grass, and the full clutch of eggs is four, though three is the most usual number found.

8. MIMUS MODULATOR.

Mimus modulator Sharpe, Cat. B. vi. p. 347; Arg. Orn. i. p. 5.

a, b, c. ♂ ♀ ad. Los Ynglases, Ajó. Oct. 12–20, 1908.
d, e, f, g. ♂ ♀ ad. & yg. Los Ynglases, Ajó. Nov. 6–9, 1908.
h, i. ♂ ♀ ad. Los Ynglases, Ajó. Jan. 7, 1909.
j. ♀ young. „ „ Jan. 21, 1909.
k. ♂ ad. „ „ Dec. 29, 1909.
l, m. ♂ ad. Nr. Santa Elena, N. Argentine. Nov. 15, 1909.

Ad. Irides grey; bill black, livid at base of lower mandible; legs and toes almost black.

Young. Irides grey; bill, legs, and toes greyish; gape yellow.

All the adults, especially the December birds, are shewing signs of wear and fading.

The two from Santa Elena are darker above than the southern birds, but are very much worn and the edges to the feathers are almost totally abraded.

The young bird differs from the adult in having "the mantle, rump, and the edges of the secondaries and wing-coverts brown; below buffy white spotted and streaked with blackish; throat as in the adult."

A common resident species in the Ajó district, but by no means often observed on the river expedition.

The nest is placed in a bush or low tree, often in a very exposed situation; it is composed of thorny twigs and lined with rootlets and hair.

4. Mimus triurus.

Mimus triurus Sharpe, Cat. B. vi. p. 342; Arg. Orn. i. p. 8, pl. i.

a. ♂ ad.	Monte Alto,	Paraguay.	Aug. 25, 1909.
b. ♂ ad.	Colonia Risso,	,,	Sept. 8, 1909.

Irides *olive-green*; bill blackish horn-coloured, pearly at base of lower mandible; legs and toes dull black.

5. Polioptila dumicola.

Polioptila dumicola Sharpe, Cat. B. x. p. 444; Arg. Orn. i. p. 12.

a. ♀ ad.	Los Ynglases,	Ajó.	Sept. 27, 1908.
b. ♂ ad.	,,	,,	Oct. 31, 1908.
c. ♂ young.	,,	,,	Feb. 15, 1909.
d, e. ♂ ad. & ♀ yg.	,,	,,	Mar. 4–12, 1909.
f, g. ♂ ♀ ad.	,,	,,	June 8, 1909.
h. ♀ ad.	Villa Franca,	Paraguay.	Aug. 10, 1909.
i. ♂ ad.	Cabo Emma,	,,	Oct. 20, 1909.

♂. Irides hazel; bill slate-coloured, darker at tip; legs and toes slate-coloured.

♀. Irides hazel; bill, legs, and toes blue-slate-coloured.

♂ juv. Soft parts as in adult; gape yellow.

The October birds are rather faded compared with those of June and August, and the March adult is much worn and faded, and is starting to moult.

The June male is in complete new dress, except for the tail.

The young female taken in March has only blackish tips to the ear-coverts and is moulting.

The young male is as follows:—"Similar to adult female except forehead and ear-coverts grey, the latter faintly bordered with blackish; and the whole of the upper parts more grey than blue."

This exceedingly graceful and pretty species is by no means common in the montes in the Ajó district, but is resident, being observed throughout the twelve months.

It is seen singly, in pairs, or occasionally three or four together, creeping about among the upper branches of the Tala trees after the manner of our Long-tailed Titmouse (*Acredula caudata*), and its note is very similar to that of the Blue Titmouse (*Parus cœruleus*). Its flight as it goes from tree to tree is dipping and graceful.

There is little doubt that it breeds in this district, though I did not find the nest or even see the birds carrying building material; but towards the close of the summer of 1908–1909 I saw one or two parties of old and young.

6. Donacobius atricapillus.

Donacobius atricapillus Sharpe, Cat. B. vi. p. 364; Arg. Orn. i. p. 13.

a. ♂? ad. Boca de Homiguera, Brazil. Oct. 9, 1909.

Irides rich yellow; bill black, ashy on under side of lower mandible; bare skin on side of neck lemon-chrome; legs and toes dark ashy.

Many individuals were observed frequenting the long grass at the edges of the swamps.

7. Troglodytes hornensis.

Troglodytes hornensis Sharpe, Cat. B. vi. p. 257.

Troglodytes musculus hornensis Oberhols. Proc. U.S. Nat. Mus. xxvii. p. 203.

a. ♂ ad.	Los Ynglases,	Ajó.	Sept. 16, 1908.
b, c, d. ♂ ♀ ad.	,,	,,	Oct. 18–26, 1908.
e, f. ♂ ♀ ad. & yg.	,,	,,	Jan. 21–25, 1909.
g. ♂ ad.	,,	,,	Feb. 3, 1909.
h. ♀ ad.	,,	,,	Mar. 10, 1909.
i. ? young.	,,	,,	Jan. 7, 1910.
j. ♀ young.	,,	,,	Feb. 2, 1910.

Ad. Irides hazel; bill dark brown, lower mandible livid flesh-coloured; gape yellow; legs and toes pale brown.

The adult specimens vary slightly individually, but there is great similarity in the general tone. When the plumage becomes worn the birds have a much more barred appearance on the upper parts.

Both the February and March adults are moulting.

The young bird differs from the adult as follows: "Above nearer blackish brown, finely and regularly barred; below, from chin to vent crossed by narrow wavy lines; more or less distinct individually."

A common species and remarkably tame and confiding; in call, actions, and habits it resembles the European Wren, but carries the tail horizontally.

It usually nests in holes or crevices in the trees, the nest being composed of a few sticks and lined with feathers; eight eggs appear to be the full clutch.

8. TROGLODYTES MUSCULUS.

Troglodytes musculus Sharpe, Cat. B. vi. p. 255; Arg. Orn. i. p. 13.

Troglodytes musculus musculus Oberhols. Proc. U.S. Nat. Mus. xxvii. p. 202.

a, *b*. ♂ ♀ ad. Riacho Ancho, N. Argentine. July 31, 1909.

c. ♂ ad. Arjerichi, Paraguay. Aug. 9, 1909.
d. ♂ ad. Villa Franca, „ Aug. 10, 1909.
e. ♂ ad. Colonia Risso, „ Sept. 8, 1909.
f. ♂ ad. Cabo Emma, „ Oct. 20, 1909.

In habits and actions similar to *T. hornensis*.

9. ANTHUS CORRENDERA.

Anthus correndera Sharpe, Cat B. x. p. 610; Arg. Orn. i. p. 17.

a. ♂ ad. Los Ynglases, Ajó. Sept. 19, 1908.
b. ♀ ad. „ „ Oct. 30, 1908.

c, *d*, *e*, *f*, *g*, *h*. ♂ ♀ ad. Los Ynglases, Ajó. Nov. 9–30, 1908.

i, *j*. ♂ ♀ young & ad. Los Ynglases, Ajó. Dec. 11–26, 1908.

k. ♀ ad. Los Ynglases, Ajó. Jan. 20, 1909.
l. ♀ young. „ „ Feb. 21, 1909.

m, n. ♂ ♀ ad. Los Ynglases, Ajó. April 28, 1909.
o, p. ♂ ♀ ad. " " Dec. 13, 1909.
q. ♀ ad. " " Jan. 6, 1910.

Irides hazel; bill dark brown, paler at base of the lower mandible; legs and toes pale brown.

The November adults are shewing signs of wear, and the December young birds are much worn.

The April birds have completed the moult and are in full new dress.

The young bird taken in February is moulting into the adult dress.

The commoner of the two Pipits found in the Ajó district, where it is exceedingly plentiful, spending most of its time on the ground, but occasionally sitting on the tops of the plants or on the wire fences.

The nest is placed on the ground under a tuft of grass, often in the footprint of a horse or cow, and is composed of grass lined with hair. Four eggs form the full clutch, though three is the usual number.

10. ANTHUS FURCATUS.

Anthus furcatus Sharpe, Cat. B. x. p. 605; Arg. Orn. i. p. 19.

a. ♀ ad. Los Ynglases, Ajó. Nov. 24, 1908.
b. ♀ ad. " " Dec. 14, 1908.
c, d. ♂ ♀ ad. " " April 16, 1909.
e. ♀ ad. " " Dec. 13, 1909.

The November and December birds are much worn, and the April examples have completed the moult and are in full new dress, shewing a deeper tinge of buff on the chest.

Nearly as plentiful as *A. correndera* in the Ajó district, and can be always distinguished in life from that species by the lighter and more uniform colour of the back.

A. furcatus resembles *A. correndera* in habits and manner of nesting. Three eggs appear to form the complete clutch.

11. PARULA PITIAYUMI.

Parula pitiayumi Sharpe, Cat. B. x. p. 259, pl. xi. fig. 1; Arg. Orn. i. p. 20.

a. ♀ ad. Los Ynglases, Ajó. Sept. 12, 1908.

b, c, d. ♂ ♀ ad. Los Ynglases, Ajó. June 1–8, 1909.
e, f. ♂ ad. Riacho Ancho, N. Argentine. July 31, 1909.
g. ♀? ad. Arjerichi, Paraguay. Aug. 9, 1909.
h. ♀ ad. Villa Oliva, ,, Aug. 11, 1909.
i. ♂ ad. Santa Rosa, ,, Aug. 14, 1909.

Irides hazel; bill and upper mandible black, lower pale yellow-brown; legs and toes brown.

This is quite the rarest woodland bird in the Ajó district, where it is apparently only a winter visitor, arriving in the autumn and leaving again in the spring.

I shot one on September 12th, soon after my arrival there in 1908, and more were observed afterwards till March or April of 1909. Miss Runnacles noted them in every month throughout that winter.

This is a dainty and lively little bird, having much the habits and actions of a *Zosterops*, while the note is loud and shrill and not unlike the alarm-note of *Troglodytes hornensis*. It was very plentiful in the woods of the Northern Argentine and Paraguay.

12. Geothlypis velata.

Geothlypis velata Sharpe, Cat. B. x. p. 363, pl. ix. fig. 5: Arg. Orn. i. p. 20.

Geothlypis cucullata Richmond, Auk, xvii. p. 179 (1900).

a, b. ♀ ad. Puerto Pinasco, Paraguay. Sept. 17, 1909.
c. ♀ ad. Curuzu Chica, ,, Oct. 29, 1909.
d. ♂ ad. Bella Vista, N. Argentine. Nov. 12, 1909.

♂. Irides hazel; bill black, lower mandible fleshy; legs and toes pale brown.

♀. Similar to the male, except that the upper mandible is dark brown.

13. Basileuterus auricapillus.

Basileuterus auricapillus Sharpe, Cat. B. x. p. 393; Arg. Orn. i. p. 21.

a. ♂ ad. Riacho Ancho, N. Argentine. July 31, 1909

Irides hazel; bill brown; legs and toes amber-yellow.

14. BASILEUTERUS FLAVEOLUS.

Basileuterus flaveolus, Sharpe, Cat. B. x. p. 380.

a. ♂ ad. Sapatero Cué, Paraguay. Sept. 3, 1909.

Irides hazel; bill dark brown; legs and toes yellow-brown.

15. VIREOSYLVIA CHIVI.

Vireo chivi Gadow, Cat. B. viii. p. 295.

Vireosylvia chivi Arg. Orn. i. p. 22.

a. ♂ ad. Near Villa Franca, Paraguay. Nov. 6, 1909.

b. ♂ ad. Bella Vista, N. Argentine. Nov. 12, 1909.

c, d. ♂ ad. Near Goya, „ Nov. 13, 1909.

e. ♀ ad. Near Santa Elena, „ Nov. 15, 1909.

Irides hazel; bill, legs, and toes slate-coloured.

This bird has much the appearance and action of our Wood-Warblers.

16. HYLOPHILUS PŒCILOTIS.

Hylophilus pœcilotis Gadow, Cat. B. viii. p. 308; Arg. Orn. i. p. 23.

a. ♀. Riacho Paraguay, Mirin, Brazil. Oct. 3, 1909.

b. ♂. Rabicho, Brazil. Oct. 8, 1909.

Irides reddish brown; bill, legs, and toes very pale brown.

17. CYCLORHIS VIRIDIS.

Cyclorhis viridis Gadow, Cat. B. viii. p. 318.

Cyclorhis altirostris Arg. Orn. i. p. 24, pl. iii. fig. 2.

a. ♀ ad. Puerto Pinasco, Paraguay. Sept. 7, 1909.

b. ♀ ad. Pan de Azucar, Brazil. Sept. 20, 1909.

Irides yellow; bill and upper mandible pale brown, lower base livid; legs and toes pale slaty grey.

18. PROGNE FURCATA.

Progne furcata Sharpe, Cat. B. x. p. 175; Arg. Orn. i. p. 24.

a. ♂ ad. Los Ynglases, Ajó. Jan. 3, 1909.

Irides hazel; bill black; legs and toes brown.

A rare visitor to the Ajó district, the specimen obtained being the only one observed. This remained for several weeks with *P. domestica*, which was breeding in the outbuildings, and, fearing that it would leave, I at last shot it.

19. Progne domestica.

Progne domestica Sharpe, Cat. B. x. p. 177.
Progne chalybea Arg. Orn. i. p. 25.

a. ♀ young. Los Ynglases, Ajó. Jan. 14, 1909.
b. ♀ young. ,, ,, Feb. 7, 1909.
c. ♀ ad. ,, ,, March 2, 1909.
d. ♂ ad. Colonia Mihanovitch, N. Argentine. Aug. 13, 1909.

The March bird is moulting.

A summer visitor to the Ajó district, and breeding in the outbuildings, the nest being placed on a horizontal rafter or support. It is composed of mud and grass and lined with feathers: five or six eggs form the complete clutch.

The young differ from the adult, as in *P. chalybea*.

20. Progne tapera.

Progne tapera Sharpe, Cat. B. x. p. 180; Arg. Orn. i. p. 26.

a. ♂ ad. Los Ynglases, Ajó. Oct. 20, 1908.
b. ♀ ad. ,, ,, Jan. 25, 1909.
c, d, e. ♀ ad. ,, ,, Feb. 4–16, 1909.
f, g. ♂ ad. Rabicho, Brazil. Oct. 8, 1909.
h, i. ♂ ♀ ad. Nr. Villa Pilar, Paraguay. Nov. 7, 1909.
k. ♂. Nr. Esquina, N. Argentine. Nov. 14, 1909.

Irides hazel; bill, legs, and toes sooty brown.

The February specimens are rather worn, but are not moulting, and all appear to be fully adult.

This arrives later than any of the other Swallows in the Ajó district, and does not leave till winter is well in. It occupies the nests of *Furnarius rufus* after the latter has left them, and its own nest is composed of grass and feathers.

On the river expedition a few were seen between Puerto Pinasco and Puerto Maria on the 7th of September, and a pair were observed carrying grass and feathers to an old Oven-bird's nest on the 8th of October at Boca de Homiguera.

21. Petrochelidon pyrrhonota.

Petrochelidon pyrrhonota Sharpe, Cat. B. x. p. 201; Arg. Orn. i. p. 30.

a, b, c. ♂. Luiconia, Ajó. March 2, 1909.

Irides dark brown; bill black; legs and toes sooty brown.

All the specimens are just completing the moult.

Numbers of this Swallow were seen at Luiconia on March 2nd, all migrating northwards; and again on Feb. 23, 1910, several were observed on the coast going westwards.

22. Tachycineta leucorrhoa.

Tachycineta leucorrhous Sharpe, Cat. B. x. p. 114.

Tachycineta leucorrhoa Arg. Orn. i. p. 30.

a. ♂ ad.	Los Ynglases, Ajó.	Oct. 20, 1908.
b, c, d, e, f. ♂ ♀ yg.	,, ,,	Mar. 3, 1909.
g. ♀ ad.	,, ,,	Dec. 21, 1909.

The young differ from the adults in being duller above and having white edges to the inner secondaries.

The White-rumped Swallow is a summer visitor to the Ajó district, appearing about the end of July and leaving again about March.

It is generally observed hawking backwards and forwards over the open camp close above the surface of the ground, and is extremely fond of circling round the rider's horse in order to catch the insects either disturbed by the animal or those that often follow.

It breeds both under the roofs of houses and in holes in the trees, and from the latter I have taken most of my nests.

The nest is made of grass warmly and thickly lined with feathers, and five eggs apparently make the full clutch.

23. Tachycineta meyeni.

Tachycineta meyeni Sharpe, Cat. B. x. p. 116.

a. ♂ ad. Los Ynglases, Ajó. May 9, 1909.

24. Atticora cyanoleuca.

Atticora cyanoleuca Sharpe, Cat. B. x. p. 186; Arg. Orn. i. p. 33.

a, b. ♂ ad. & young. Los Ynglases, Ajó. Feb. 20, 1910.

Irides dark brown; bill black; legs and toes purplish brown.

A few were seen on the date the specimens were shot, but the bird does not, I think, now breed in the Ajó district, or if so very sparingly.

25. Atticora fucata.

Atticora fucata Sharpe, Cat. B. x. p. 188; Arg. Orn. i. p. 35.

a. Ad. Mortero, Paraguay. Aug. 13, 1909.

Irides brown; bill, legs, and toes horn-brown.

26. Stelgidopteryx ruficollis.

Stelgidopteryx ruficollis Sharpe, Cat. B. x. p. 208; Arg. Orn. i. p. 36.

a. ♂ ad. Rabicho, Brazil. Oct. 8, 1909.

b. ♂ ad. Colonia Mihanovitch, N. Argentine. Nov. 5, 1909.

27. Euphonia chlorotica.

Euphonia chlorotica Scl. Cat. B. xi. p. 64; Arg. Orn. i. p. 37.

Euphonia serrirostris Chubb, Ibis, 1910, p. 621.

a. ♂ ad. Curuzu Chica, Paraguay. Oct. 29, 1909.

Iris hazel; bill, legs, and toes deep slate-coloured.

28. Tanagra sayaca.

Tanagra sayaca Scl. Cat. B. xi. p. 158; Arg. Orn. i. p. 39.

a. ♂ ad. Near Goya, N. Argentina. Nov. 12, 1909.
b. ♀ ad. Near Santa Elena, ,, Nov. 15, 1909.
c. ♀ ad. Monte Alto, Paraguay. Aug. 25, 1909.

Iris hazel; bill, feet, and toes pale blue-slate-coloured; tip of upper mandible dark.

d, e. ♀ ad. Cabo Emma, Alto Paraguay. Oct. 20, 1909.
f. ♀ ad. Puerto Maria, ,, Oct. 24, 1909.

There is also an adult male in Miss Runnacles' collection taken at Ajó on the 12th of August, 1909, to which district it is a rare visitant.

29. TANAGRA BONARIENSIS.

Tanagra bonariensis Scl. Cat. B. xi. p. 164; Arg. Orn. i. p. 39.

a. ♀ ad.	Los Ynglases,	Ajó.	Sept. 12, 1908.
b, c. ♂ ad.	,,	,,	Sept. 15, 1908.
d. ♀ ad.	,,	,,	Sept. 21, 1908.
e. ♀ ad.	,,	,,	Feb. 1, 1909.
f, g, h. ♂ ♀ juv.	,,	,,	Feb. 15, 18, 1909.
i, k. ♂ ad. et imm.	,,	,,	May 5, 1909.
l. ♀ juv.	,,	,,	May 6, 1909.
m, n. ♂ ♀ imm.	,,	,,	May 12, 1909.
o, p. ♀ ad.	,,	,,	Jan. 7, 1910.
q. ♂ ad.	,,	,,	Jan. 9, 1910.
r, s. ♂ ad.	,,	,,	Jan. 10, 1910.

The young male is similar to the adult female, but not so sandy rufous below.

A common bird at Ajó, where it does not a little damage to fruit &c. in the gardens.

I have been unable to decide whether it breeds in this district or not; but I think there is little doubt that it does breed here, as not only have I shot young birds which had not long left the nest, but in December 1908 Miss Runnacles secured for me several females that had undoubtedly been sitting, and again in January 1910 I shot females that had been sitting recently.

It also appears to be subject to partial migration, as the following note supplied to me by Miss Runnacles shews:—

"During August and September, 1909, the 'Siete Colores' was extremely numerous, but suddenly disappeared about the first week in October, after which not one was to be seen, and they did not put in an appearance until near the beginning of December, when a few females and young birds were observed."—*I. G. R.*

30. Ramphocœlus atrosericeus.

Rhamphocœlus atrosericeus Scl. Cat. B. xi. p. 175.

a. ♂ ad. Pasage de Nigre, Alto Paraguay. Sept. 29, 1909.

Iris dark crimson; bill black, bluish white on lower mandible; legs and feet sooty brown.

b. ♂ ad. Off Rabicho, Alto Paraguay. Oct. 10, 1909.

31. Pyranga azaræ.

Pyranga azaræ Scl. Cat. B. xi. p. 186; Arg. Orn. i. p. 40.

a. ♂ imm. Colonia Mihanovitch. N. Argentine. Aug. 13. 1909.

Iris hazel; bill, upper mandible black, lower mandible pale slate-blue; legs and toes slate-coloured.

b. ♂ ad. Santa Elena, Northern Argentine. Nov. 15, 1909.

32. Tachyphonus melaleucus.

Tachyphonus melaleucus Scl. Cat. B. xi. p. 206.

Tachyphonus rufus Sharpe, Hand-l. B. v. p. 392 (1909).

a. ♂ ad. Riacho Ancho, N. Argentine. Aug. 1, 1909.

Iris brown; bill black, slate-coloured at base of lower mandible; legs and toes black.

33. Arremon polionotus.

Arremon polionotus Scl. Cat. B. xi. p. 278 (1886).

a. ♂ ad. Riacho Ancho, N. Argentine. July 31, 1909.

Iris hazel; bill yellow, culmen black; legs and toes purplish horn-coloured.

b. ♂ ad. Villa Franca, Paraguay. Aug. 10, 1909.

34. Saltator cærulescens.

Saltator cærulescens Scl. Cat. B. xi. p. 290; Arg. Orn. i. p. 42.

a. ♂ ad. Puerto Pinasco, Alto Paraguay. Sept. 7, 1909.
b. ♀ ad. ,, ,, ,, Sept. 29, 1909.
c. ♂ ad. Coimbrá. Oct. 15, 1909.
d. ♂ ad. Colonia Mihanovitch, N. Argentine. Nov. 5, 1909.

35. SALTATOR SIMILIS.

Saltator similis Scl. Cat. B. xi. p. 287; Arg. Orn. i. p. 41.

a. ♂ ad. Colonia, N. Argentine. Aug. 12, 1909.

Iris hazel; bill blackish brown, gape yellow; legs and toes purplish brown.

b. ♂ ad. Pan de Azucar, Brazil. Sept. 19, 1909.

36. SALTATOR AURANTIIROSTRIS.

Saltator aurantiirostris Scl. Cat. B. xi. p. 292; Arg. Orn. i. p. 42.

a, b. ♂ ad. Santa Elena, Northern Argentine. Nov. 15, 1909.

Iris brown; bill rich yellow-ochre or gamboge; legs and toes purplish brown.

c. ♀ juv. Iris greyish brown; bill olive-brown, yellowish at cutting-edges and gape; legs and toes bluish ash-coloured.

37. SPOROPHILA LEUCOPTERA.

Sporophila leucoptera Hellm. Verh. z.-b. Ges. Wien, liv. p. 536; Sharpe, Hand-l. v. p. 208.

a. ♂ ad. Boca de Homiguera, Alto Paraguay. Oct. 9, 1909.

Iris hazel; bill brown; legs and toes dark purple.

b. ♂ ad. Colonia Mihanovitch, N. Argentine. Nov. 5, 1909.

38. SPOROPHILA MELANOCEPHALA.

Spermophilus melanocephalus Sharpe, Cat. B. xii. p. 118; Arg. Orn. i. p. 45.

a. ♂ young. Monte Alto, Paraguay. Aug. 25, 1909.

Iris hazel; bill, legs, and toes dark olive-brown.

b. ♂; *c, d.* ♀ ad. Desaguadero, Paraguay. Aug. 29, 1909.

Iris hazel; bill dark olive-brown; legs and toes brown.

39. SPOROPHILA CÆRULESCENS.

Spermophila cærulescens Sharpe, Cat. B. xii. p. 126; Arg. Orn. i. p. 46.

a, b, c. ♂ juv. Los Ynglases, Ajó. April 19, 1909.

Iris dark brown: bill horn-coloured, yellowish at gape and base of under mandible; legs and toes black.

d, e. ♂ ♀ ad. Los Ynglases, Ajó. Jan. 1910.

Iris hazel; bill greenish pearl; legs and toes blackish.

f. ♀ ad. Colonia Mihanovitch, N. Argentine. Nov. 5, 1909.

g. ♂ ad. Near Santa Elena, N. Argentine. Nov. 15, 1909.

Iris hazel; bill pearly grey, yellowish on the cutting-edges; legs and toes purplish brown.

During the autumn of 1909 a few of these little Finches frequented the garden at Los Ynglases, but I did not see any old males.

Later in 1909 and in the beginning of 1910 they were again seen, this time both old males and females, and two nests were found in the garden.

40. Paroaria cucullata.

Paroaria cucullata Sharpe, Cat. B. xii. p. 809, pl. xvi. fig. 1; Arg. Orn. i. p. 47.

a. ♂ ad. Los Ynglases, Ajó. Sept. 12, 1908.

Iris hazel; bill livid; legs and toes sooty black.

b. ♀ juv. Los Ynglases, Ajó. Nov. 12, 1908.

c. ♀ ad.; *d, e.* ♂ imm. Los Ynglases, Ajó. Jan. 1909.

f. ♂ ad; *g, h.* ♀ ad. et imm. Los Ynglases, Ajó. Feb. 1909.

i. ♀ juv. Los Ynglases, Ajó. March 5, 1909.

j, k. ♂ ♀ juv. Bahia Negra, Alto Paraguay. Oct. 19, 1909.

This is the only Cardinal found in the Ajó district, where it is quite plentiful; but very few were observed on the river expedition. The only records that I have of seeing it are at Puerto Maria on Sept. 13th and 16th and at Puerto Olimpo on the 21st of the same month. Everywhere it is quite tame, and it makes a delightful cage-bird.

The nest is a thin open structure of hair and can be seen through from below, while two eggs is the most I have taken, though this cannot be the full clutch.

The eggs seem to vary somewhat, the two in my collection being quite different from the two in Miss Runnacles' collection.

41. PAROARIA CAPITATA.

Paroaria capitata Sharpe, Cat. B. xii. p. 812, pl. xvi. fig. 5; Arg. Orn. i. p. 48.

a, b. Imm. Riacho Ancho, N. Argentine. July 30, 1909.

Iris hazel; bill deep yellow; legs and toes pale brown.

c. ♂ ad. Puerto Pinasco, Alto Paraguay. Sept. 7, 1909.

d, e, f. ♂ ad. et imm. Sapatero Cué, Paraguay. Sept. 3, 1909.

g, h. ♂ ♀ ad. Esquina, N. Argentine. Nov. 14, 1909.

i. ♀; *k, l.* ♂ ad. Rosario, N. Argentine.

This is the commoner of the two Cardinals, and was observed throughout the river expedition from Corumba to as far south as Rosario in the Argentine. It was mostly seen in small flocks, and frequented the wood and scrub bordering the river or the lagoons.

42. CORYPHOSPINGUS CRISTATUS.

Coryphospingus cristatus Sharpe, Cat. B. xii. p. 803; Arg. Orn. i. p. 48.

a. ♂ ad. Colonia Risso, Alto Paraguay. Sept. 8, 1909.

Iris hazel; bill, upper mandible sooty brown, lower mandible livid; legs and toes sooty black.

b. ♂ ad. Curuzu Chica, Paraguay. Oct. 29, 1909.

43. CORYPHOSPIZA ALBIFRONS.

Coryphospiza albifrons Sharpe, Cat. B. xii. p. 766.

Donacospiza albifrons Arg. Orn. i. p. 49.

a. ♂ ad. Cape San Antonio, Prov. Buenos Aires. Dec. 17, 1908.

I only observed this little bird in the rough medano country along the coast, and even there it is distinctly uncommon.

In February, 1910, I saw a small party of four or six, which were probably old and young, but I could not secure them.

44. Poospiza personata.

Poospiza personata Sharpe, Cat. B. xii. p. 640.

Poospiza nigrorufa Arg. Orn. i. p. 49.

a. ♂ ad. Los Ynglases, Ajó. Sept. 21, 1908.
b. ♀ ad. „ „ Oct. 3, 1908.
c, d, e. ♂ ad. „ „ Mar. 13, 1909.
f. ♂ yg. „ „ Feb. 3, 1910.
g. ? ad. Bella Vista, N. Argentine. Nov. 12, 1909.

Irides dark brown; bill, legs, and toes sooty black.

The September male is somewhat worn and very dark above.

The March birds are all moulting and their new dress is more olive above than that of the breeding male; one of them is spotted below and is probably not yet fully adult. There is a male in Miss Runnacles' collection, taken at Ajó on September 27th, which is much worn and very pale below and thickly spotted on the under parts except the throat.

The young male is moulting into the chestnut plumage, and most of the new feathers have spots; in its first plumage it was apparently very similar to the adult female.

The specimen from Bella Vista is rather pale and more uniform greyish above than the others: it is undoubtedly a male, though it could not be dissected.

This species is not very plentiful in the Ajó district, where it is resident; it frequents, as a rule, the undergrowth in the woods and gardens.

45. Poospiza melanoleuca.

Poospiza melanoleuca Sharpe, Cat. B. xii. p. 638; Arg. Orn. i. p. 52.

a. ♀ ad. Pan de Azucar, Brazil. Sept. 17, 1909.
b. ♀ ad. Colonia Mihanovitch, N. Argentine, Nov. 5, 1909.

Irides russet-brown; bill black; legs and toes purplish brown.

46. Brachyspiza pileata.

Zonotrichia pileata Sharpe, Cat. B. xii. p. 610; Arg. Orn. i. p. 58.

a, b, c. d. ♂ ♀ ad. Los Ynglases, Ajó. Sept. 10–30, 1908.

e,f,g, h. ♂ ♀ ad. & young. Los Ynglases, Ajó. Oct. 2–31, 1908.

i, j, k, l. ♀ ad. Los Ynglases, Ajó. Nov. 4–13, 1908.

m, n, o. ♂ ♀ ad. Los Ynglases, Ajó. Dec. 9–12, 1908.

p, q, r. ♂ ♀ ad. & young. Los Ynglases, Ajó. Jan. 7–25, 1909.

s. ♂ young. Los Ynglases, Ajó. Feb. 27, 1909.

t. ♀ ad. Villa Franca, Paraguay. Aug. 10, 1909.

u. ♀ ad. Colonia Mihanovitch, N. Argentine. Aug. 12 1909.

v. ♂ ad. Puerto Maria, Paraguay. Oct. 24, 1909.

w. ♂ ad. Bella Vista, N. Argentine. Nov. 12, 1909.

x. ♂ ad. Near Rosario, „ Nov. 17, 1909.

The November and December birds are getting decidedly worn, and one of the two January adults is starting to moult.

The young bird taken in February is moulting into the adult plumage.

The 'Chingolo' of the Argentine is very common and resident in the Ajó district. It is very tame.

The nest is placed on the ground or in a hole or hollow in a tree, often at a considerable height from the ground.

47. MYIOSPIZA MANIMBE.

Ammodromus manimbe Sharpe, Cat. B. xii. p. 691.

Myiospiza manimbe Sharpe, Hand-l. B. v. p. 295.

Coturniculus peruanus Arg. Orn. i. p. 60.

a. ♀ ad. Villa Franca, Paraguay. Aug. 10, 1909.

Iris brown; bill bluish flesh-coloured, culmen horn-brown; legs and toes whitish brown.

b. ♂ ad. Villa Oliva, Paraguay. Aug. 11, 1909.

c, d. ♂ ad. Colonia Mihanovitch, N. Argentine. Aug. 12, 1909.

e. ♂ ad. Monte Alto, Paraguay. Aug. 25, 1909.

f. ♀ ad. Colonia Mihanovitch, N. Argentine. Nov. 5, 1909.

48. EMBERNAGRA PLATENSIS.

Embernagra platensis Sharpe, Cat. B. xii. p. 758; Arg. Orn. i. p. 62.

a. ♀ ad. Los Ynglases, Ajó. Oct. 27, 1908.
b, c. ♂ ♀ ad. " " Nov. 2, 1908.
d. ♂ ad. Tuyu, Ajó. Nov. 27, 1908.
e, f. ♂ ♀ young. Cape San Antonio. Dec. 18–21, 1908.
g. ♀ ad. Los Ynglases, Ajó. Dec. 29, 1909.
h. ♀ ad. " " Jan. 21, 1909.
i. ♂ ad. " " Feb. 16, 1909.
j. ♂ young. " " April 23, 1909.
k, l. ♀ ad. Colonia Mihanovitch, N. Argentine. Aug. 12, 1909.
m, n. ♂ ♀ ad. Near Villa Pilar, Paraguay. Nov. 7, 1909.
o, p, q. ♂ ♀ ad. Bella Vista, N. Argentine. Nov. 12, 1909.

All the adults are shewing signs of wear, the January ones being much worn and the February bird moulting.

Ad. Irides hazel; bill, upper half of upper mandible dark brown, lower half and lower mandible deep yellow; legs and toes olive.

Young. Irides hazel; bill black and flesh-coloured; legs and toes pale horn-brown.

The young bird taken in April is moulting into the adult dress.

This is a common and resident species in the Ajó district, and many were seen on the open grass-lands during the river expedition.

The nest is placed in a tuft of grass on the ground, and three or four eggs make the full clutch.

49. EMBERIZOIDES HERBICOLA.

Emberizoides sphenurus, subsp. *herbicola* Sharpe, Cat. B. xii. p. 769.

Emberizoides sphenurus Arg. Orn. i. p. 63.

a. ♀ ad. Colonia Mihanovitch, N. Argentine. Aug. 12, 1909.

Iris hazel; bill, upper mandible dark horn-coloured, edges of the upper and whole of the lower mandible yellow; legs and toes yellowish horn-coloured.

50. Chrysomitris icterica.

Chrysomitris icterica Sharpe, Cat. B. xii. p. 217; Arg. Orn. i. p. 64.

a, b. ♂ ♀ ad. Los Ynglases, Ajó. Sept. 14, 1908.
Iris hazel; bill, feet, and toes black.
c, d. ♀ ad. Los Ynglases, Ajó, Oct. 1908.
e, f, g. ♀ ad. Luiconia, Ajó. Nov. 20, 1908.
h, i. ♀ ad. Los Ynglases, Ajó. Jan. 29, 1909.
k, l. ♂ ad. ,, ,, Feb. 1909.
m. ♂ ad. ,, ,, March 12, 1909.
n. ♂ imm. ,, ,, April 7, 1909.
o. ♂ ad. ,, ,, Feb. 14, 1910.

The Black-headed Siskin is extremely plentiful in the Ajó district, and usually frequents the Tala and other woods, where its delightful little song can be heard throughout the year.

The nest is an extremely neat little cup-shaped structure composed of wool and thistle-down and lined with hair, and four eggs appear to be the complete clutch, though three are often found. It is placed in a bush or in the fork of a tree, and is not always easy to detect.

The eggs vary somewhat in shape and colour: some are of a very delicate semitransparent blue, others are more opaque, and some are more or less spotted on the obtuse end.

51. Sycalis pelzelni.

Sycalis pelzelni Sharpe, Cat. B. xii. p. 380; Arg. Orn. i. p. 66.

a. ♂ ad. Los Ynglases, Ajó. Sept. 17, 1908.
b. ♂ young. ,, ,, Dec. 27, 1908.
c. ♂ young. ,, ,, Jan. 18, 1909.
d, e. ♂ ad. ,, ,, Feb. 18, 1909.
f. ♀ ad. ,, ,, Mar. 10, 1909.
g, h. ♀ ad. ,, ,, May 24, 1909.
i, j. ♂ ♀ ad. ,, ,, Dec. 28, 1909.

Ad. ♂. Irides hazel; bill, upper mandible dark olive, lower pale; legs and toes purplish brown.

The December and February adult birds are worn and the March bird is moulting.

The two May females are in the new dress and are much browner than those in worn breeding-plumage.

The young male is rather paler above than fresh-moulted adult females, and is whiter below with more numerous and narrower streaks.

This is a common resident species at Ajó, where it is called the "Canary" or "Yellow House-Sparrow."

It is very tame and often found round habitations, and has a rather sweet song.

It usually breeds in the old nests of *Furnarius rufus* and occasionally under the roofs of outbuildings. The nest is cup-shaped and composed of wool. Eggs were brought home taken at Ajó.

52. Sycalis arvensis.

Sycalis arvensis Sharpe, Cat. B. xii. p. 382.

a, b, c, d, e. ♂ ♀ ad. Los Ynglases, Ajó. Nov. 10–24, 1908.

f. ♀ ad. Luiconia, Ajó. Nov. 19, 1908.
g. ? young. Los Ynglases, Ajó. Jan. 7, 1909.
h. ♀ ad. " " Feb. 27, 1909.
i, j. ♂ ♀ ad. " " April 3, 1909.
k, l, m. ♂ ♀ ad. " " Dec. 13–24, 1909.

Irides hazel; bill, upper mandible dark brown, lower pale; legs and toes pale brown.

Most of the November and December birds are worn and the February one is moulting.

The April pair are in new dress, though the male is still moulting, and both are apparently fully adult.

The male is much browner above than the breeding-birds and has a distinct wash of greenish across the chest. The female is much browner, both above and below, than the breeding-bird. The young bird is not quite fully fledged.

A very common Finch on all the open grass-lands, often going in flocks in the winter. It is essentially a ground bird, though it will often perch on the tops of plants and wire fences.

The nest is built on the ground in lowish-lying situations and in the denser vegetation, such as beds of thistles. It is fairly deep and cup-shaped and is a rather frail structure of grass and hair.

53. Cassicus albirostris.

Cassicus albirostris Scl. Cat. B. xi. p. 323.

a. ♂ ad. Arjerichi, Paraguay. Aug. 9, 1909.

Iris white; bill slate-coloured; legs and toes black.

b. ♀ ad. Villa Oliva, Paraguay. Aug. 4, 1909.

c. ♀ ad. Villa Franca, ,, Nov. 6, 1909.

54. Amblycercus solitarius.

Amblycercus solitarius Scl. Cat. B. xi. p. 326; Arg. Orn. i. p. 72.

a. ♂ ad. Puerto Pinasco, Alto Paraguay. Sept. 7, 1909.

Iris reddish brown; bill pale yellow-pearl; legs and toes sooty brown.

b. ♀ ad. Puerto Pinasco, Alto Paraguay. Sept. 7, 1909.

Iris brown; bill yellow-pearl, horn-coloured at base; legs and toes sooty brown.

c. Ad. Villa Pilar, Paraguay. Nov. 7, 1909.

55. Molothrus bonariensis.

Molothrus bonariensis Scl. Cat. B. xi. p. 335; Arg. Orn. i. p. 72.

a, b. ♂ ♀ ad. Los Ynglases, Ajó. Sept. 17, 1908.

Iris hazel; bill, legs, and toes black.

c, d. ♀ ad. Los Ynglases, Ajó. Oct. 29, 1908.

e. ♀ ad.; *f.* ♂ juv. Los Ynglases, Ajó. Dec. 1908.

g–k. ♂; *l.* ♀ ad. ,, ,, Jan. 1909.

m. ♂ ad. Los Ynglases, Ajó. April 28, 1909.

n. ♀ juv. ,, ,, Dec. 23, 1909.

Bill, legs, and toes dark olive-green.

o. ♂ ad. Los Ynglases, Ajó. Jan. 7, 1910.

p. ♂ ad. Cabo Emma, Alto Paraguay. Oct. 20, 1909.

q. ♂ juv. Villa Pilar, Paraguay. Nov. 7, 1909.

r. ♀ ad. Bella Vista, N. Argentine. Nov. 12, 1909.

This is the commonest of the three Cow-birds found in the Ajó district, and during the winter months congregates in flocks in company with *A. holosericeus*, and does considerable damage to the maize. It was also observed in several localities in the Argentine and Paraguay during the river expedition.

Its parasitical habits have been well described by Hudson and need no further additions.

56. MOLOTHRUS RUFOAXILLARIS.

Molothrus rufoaxillaris Scl. Cat. B. xi. p. 338; Arg. Orn. i. p. 86. pl. vi. fig. 2.

a. ♂ ad. Los Ynglases, Ajó. Sept. 12, 1908.

Iris hazel; bill, legs, and toes black.

b. ♂ ad. Los Ynglases, Ajó. Nov. 17, 1908.
c. ♂ juv. ,, ,, March 23, 1909.
d, e. ♂ ♀ ad. ,, ,, April 28, 1909.
f. ♂ ad. ,, ,, Jan. 7, 1910.

This is the least common of the three Cow-birds found at Ajó, and consorts with the flocks of *M. bonariensis*.

It can be distinguished from the male of that species by its duller appearance and different cry. Eggs presumably of this species were taken in the nests of *Pseudoleistes virescens* and *M. badius*.

57. MOLOTHRUS BADIUS.

Molothrus badius Scl. Cat. B. xi. p. 338; Arg. Orn. i. p 95.

a. ♀ ad. Los Ynglases, Ajó. Oct. 29, 1908.
b. ♂ juv. ,, ,, Nov. 17, 1908.
c. ♂ juv. ,, ,, Dec. 9, 1908.
d, e. ♂ ♀ juv. Luiconia, Ajó. Dec. 29, 1908.
f. ♀ juv. Los Ynglases, Ajó. Jan. 25, 1909.
g. ♀ ad. ,, ,, March 10, 1909.
h, i, k, l. ♂ ad. et imm. Los Ynglases, Ajó. May, 1909.
m. ♀ ad. Riacho Ancho, N. Argentine. Aug. 1, 1909.
n. ♀ ad.; *o.* ♂ imm. Villa Mortero, Paraguay. Aug. 13, 1909.
p. ♀ ad. Goya, N. Argentine. Nov. 13, 1909.

This species is nearly as abundant as *M. bonariensis* in the Ajó district, and was the commonest Cow-bird observed on the river expedition.

The nests taken were found in the old nests of *Anumbius acuticaudatus*, and contained eggs both of this species and of *M. rufoaxillaris*, while, judging by the eggs found in the nest of *Pseudoleistes virescens*, the eggs with large spots and mottlings are those of *M. rufoaxillaris*, and those with the more even markings belong to this species.

58. DOLICHONYX ORYZIVORUS.

Dolichonyx oryzivorus Scl. Cat. B. xi. p. 331.

a. ♀ ad. Alto Paraguay, Bolivia. Oct. 15, 1909.

Iris hazel; bill, legs, and toes horn-brown.

59. AGELÆUS THILIUS.

Agelæus thilius Scl. Cat. B. xi. p. 343; Arg. Orn. i. p. 97.

a, b. ♂ ad. Los Ynglases, Ajó. Sept. 1908.

Iris dark brown; bill, legs, and toes black.

c. ♀ ad. Los Ynglases, Ajó. Dec. 24, 1908.
d. ♀ ad. ,, ,, Jan. 4, 1909.
e. ♂ imm. ,, ,, Feb. 16, 1909.

f, g. ♂ ad. et imm.; *h.* ♀ ad. Los Ynglases, Ajó. March 1909.

i, k, l. ♂ ad. et imm.; *m.* ♀ ad. Los Ynglases, Ajó. April 1909.

This is another common and resident species in the Ajó district, and, as a rule, frequents the vast swamps or cañadons: during the winter months it assembles in flocks of several hundred individuals.

The cup-shaped nest is composed of dry grass, and is situated in the thick masses of grass in the swamps only a foot or so above the level of the ground or water. Three eggs appear to form the complete clutch.

60. AGELÆUS RUFICAPILLUS.

Agelæus ruficapillus Scl. Cat. B. xi. p. 347; Arg. Orn. i. p. 99; Claude Grant, Bull. B. O. C. xxv. p. 114 (1910).

a. ♂. Mortero, Paraguay. Aug. 13, 1909.

Iris hazel; bill black, livid at the base of lower mandible.

Several small flocks of this bird were seen frequenting the edges of the swamps in the locality where the specimen was secured.

The female described in the Bull. B. O. C., as above referred to, was shot by Miss Runnacles in the swamps at Ajó, which appears to be a very southern locality for the species.

61. AGELÆUS CYANOPUS.

Agelæus cyanopus Scl. Cat. B. xi. p. 344.

a. ♀ ad. Bella Vista, N. Argentine. Nov. 12, 1909.

Iris brown; bill blackish brown; legs and toes dark ashy brown.

b, c. ♂; *d, e.* ♀ ad. Esquina, N. Argentine. Nov. 14, 1909.

Iris brown; bill, legs, and toes black.

f, g, h. ♀ ad. Esquina, N. Argentine. Nov. 17, 1909.

62. LEISTES SUPERCILIARIS.

Leistes superciliaris Scl. Cat. B. xi. p. 349; Arg. Orn. i. p. 100.

a. ♂ ad. Alto Paraguay, Bolivia. Sept. 22, 1909.

Iris brown: bill slate-coloured, culmen and tips black; legs and toes purplish brown.

b. ♂ ad. Alto Paraguay, Bolivia. Oct. 15, 1909.

This bird was only observed in Bolivian territory, where several flocks of two or three hundred individuals frequented the long grass bordering a large lagoon.

63. AMBLYRHAMPHUS HOLOSERICEUS.

Amblyrhamphus holosericeus Scl. Cat. B. xi. p. 350; Arg. Orn. i. p. 101.

a, b. ♂ ♀ ad. Los Ynglases, Ajó. Dec. 28, 1908.

c, d. ♂ ad.; *e, f. g.* ♂ juv. Los Ynglases, Ajó. Feb. 1909.

Iris dark brown; bill, legs, and toes black.

h, i. ♂ ♀ ad.; *k, l.* ♂ imm. Los Ynglases, Ajó. April 1909.

m–q. ♂ ♀ ad. et imm. Los Ynglases, Ajó. May 1909.

r. ♀ ad. Los Ynglases, Ajó. Feb. 3, 1910.

A very common and resident species in the Ajó district. During the winter months it assembles in large flocks and does no inconsiderable damage to the maize crops. These flocks present an exceedingly pretty picture with their red heads contrasting with the black wings and body.

The nest is placed, as a rule, in the cañadons and is a deep cup-shaped structure of dry swamp-grass built between the stems of strong plants. Three eggs appear to be the full clutch.

The call is a sort of whistle.

64. PSEUDOLEISTES VIRESCENS.

Pseudoleistes virescens Scl. Cat. B. xi. p. 352; Arg. Orn. i. p. 102.

a. ♀ ad. Los Ynglases, Ajó. Oct. 30, 1908.

b. ♂ ad. „ „ Nov. 24, 1908.

Iris hazel; bill, legs, and toes black.

c. ♂ ad.; *d, e.* ♂ ♀ juv. Los Ynglases, Ajó. Jan. 2, 1909.

f, g. ♂ ♀ juv. Los Ynglases, Ajó. Jan. 7, 1910.

One of the commonest of the resident species in the Ajó district, being the "Pecho amarillo" of the Spaniards; it is usually found in flocks throughout the year, especially during the winter months. It is an inquisitive and noisy bird, especially when going to roost.

The nest is placed either in the herbage in the cañadons or in low bushes or shrubs in the woods, and sometimes in the Tala trees; it is a large cup-shaped structure. Five or six eggs seem to be the full clutch, though this number is not often found, owing to the Cow-birds *Molothrus bonariensis* and *M. rufoaxillaris* being parasitic on this species, especially the latter. In some nests I have found only the eggs of the Cow-bird, those of the Yellow-breast having been all destroyed.

65. TRUPIALIS MILITARIS.

Trupialis militaris Scl. Cat. B. xi. p. 356; Arg. Orn. i. p. 104.

a. ♂ ad. Los Ynglases, Ajó. Nov. 10, 1908.

Iris dark brown; bill, upper mandible black and pale slate-coloured, lower pale slate-coloured; legs and toes horn-brown.

b. ♂ imm. Tuyu, Ajó. Dec. 2, 1908.

c. ♂ juv. Cape San Antonio. Dec. 21, 1908.

Iris hazel; bill pale brown, gape cream-coloured; legs and toes very pale ashy.

d, e. ♂ ♀ ad. Los Ynglases, Ajó. Feb. 27, 1909.

f, g, h. ♂; *i.* ♀ ad. Los Ynglases, Ajó. May 1909.

k. ♂ ad. Los Ynglases, Ajó. Dec. 29, 1909.

l, m. ♂ ♀ ad. Los Ynglases, Ajó. Jan. 11, 1910.

Quite a common resident in the Ajó district, especially in the sand-hills bordering the coast-belt.

It also breeds there, the nest being a little dry grass placed on the ground under a tuft of grass or thistles. Three eggs appear to form the complete clutch.

I have only found the nest by actually riding over it, the hen bird rising under the horse's feet, when the white under wings can be easily seen which distinguish this species from *T. defilippii.*

66. TRUPIALIS DEFILIPPII.

Trupialis defilippii Scl. Cat. B. xi. p. 357; Arg. Orn. i. p. 105.

a. ♂; *b–f.* ♀ ad. Los Ynglases, Ajó. April 1909.

Iris dark brown; bill pearly slate-coloured; legs and toes purplish brown.

g, h, i. ♂ ad. Los Ynglases, Ajó. May 1909.

This species appeared in large numbers at Ajó after the breeding-season and frequented the open grass-lands, being a pretty and conspicuous object.

It cannot be distinguished from *T. militaris* on the ground, but on the wing the black under wing-coverts at once distinguish it from that species.

67. ICTERUS PYRRHOPTERUS.

Icterus pyrrhopterus Scl. Cat. B. xi. p. 368; Arg. Orn. i. p. 107.

a. ♂ ad. Villa Franca, Paraguay. Aug. 10, 1909.

Iris hazel; bill black; toes very dark ashy.

b. ♀ ad. Puerto Maria, Alto Paraguay. Oct. 24, 1909.

c, d. ♂ ♀ ad. Santa Elena, Northern Argentine. Nov. 15, 1909.

68. APHOBUS CHOPI.

Aphobus chopi Scl. Cat. B. xi. p. 405; Arg. Orn. i. p. 108.

Gnorimopsar chopi Richmond, Proc. U.S. Nat. Mus. xxxv. p. 584 (1908).

a, b. ♀ ad. Santa Rosa, Paraguay. Aug. 14, 1909.

Iris hazel; bill, legs, and toes black.

c. ♂ ad. Cabo Emma, Alto Paraguay. Oct. 20, 1909.

Several flocks of twenty or thirty individuals were observed during the river expedition frequenting the open grass-land at the edge of the woods.

69. CYANOCORAX CHRYSOPS.

Cyanocorax chrysops Sharpe, Cat. B. iii. p. 120; Arg. Orn. i. p. 110.

a. ♀ ad. Riacho Ancho, N. Argentine. July 31, 1909.

Iris lemon-yellow; bill, legs, and toes black.

Very common in all the woods throughout Paraguay and Brazil, and found in flocks of from ten to twelve individuals. An extremely noisy and inquisitive bird, coming within a few feet of anyone passing through the woods.

70. CYANOCORAX CÆRULEUS.

Cyanocorax cæruleus Sharpe, Cat. B. iii. p. 126; Arg. Orn. i. p. 110.

a. ♀ ad. Riacho Ancho, N. Argentine. July 31, 1909.

Iris brown; bill, legs, and toes black.

b. ♀ ad. Curuzu Chica, Paraguay. Aug. 28, 1909.

c. ♀ ad. Humaita, Paraguay. Nov. 7, 1909.

Commonly observed north of Corrientes in small parties in the woods. Very noisy and somewhat inquisitive.

71. MYIOTHERETES RUFIVENTRIS.

Myiotheretes rufiventris Scl. Cat. B. xiv. p. 8; Arg. Orn. i. p. 112.

a. Los Ynglases, Ajó. Jan. 16, 1909.

Irides dark brown; bill, legs, and toes black.

The only specimen seen, and this was on the ground; it resembles a Thrush. It is in very worn plumage, but is not moulting.

72. TÆNIOPTERA NENGETA.

Tænioptera nengeta Scl. Cat. B. xiv. p. 11; Arg. Orn. i. p. 114.

a. ♂ ad. Los Ynglases, Ajó. Oct. 29, 1908.

b. ♀ ad. Riacho Ancho, N. Argentine. Aug. 1, 1909.

Irides deep red; eyelid pale yellow; bill, legs, and toes black.

Only one specimen was observed at Ajó; but several were seen on the river expedition; they were usually observed sitting solitary on the top of a stump or low tree or bush.

73. TÆNIOPTERA DOMINICANA.

Tænioptera dominicana Scl. Cat. B. xiv. p. 13; Arg. Orn. i. p. 117.

a. ♂ ad. Luiconia, Ajó. April 29, 1909.

Irides dark brown; bill, legs, and toes black.

This specimen is in full plumage and is just completing the moult on the head.

Several of these birds were seen on the 29th of April, but were so wild that I could only secure one.

A pair or so are always to be seen at Luiconia on the outskirts of the rough grass country, but I am by no means sure that it breeds there.

74. TÆNIOPTERA IRUPERO.

Tænioptera irupero Scl. Cat. B. xiv. p. 13; Arg. Orn. i. p. 8.

a. ♂ ad. Tayru, Paraguay. Aug. 5, 1909.

b. ♀ ad. Villa Franca, Paraguay. Aug. 5, 1909.

c. ♀ ad. Colonia Mihanovitch, N. Argentine. Aug. 12, 1909.

Irides brown; bill, legs, and toes black.

Many of this "Widow-bird" were seen on the river expedition, always alone and perched on the tops of solitary bushes, whence they fly off to take passing insects.

75. FLUVICOLA ALBIVENTRIS.

Fluvicola albiventris Scl. Cat. B. xiv. p. 36; Arg. Orn. i. p. 121.

a. ♂ ad. Colonia Risso, Paraguay. Sept. 8, 1909.

Irides hazel; bill, legs, and toes black.

Quite a number of these birds were seen frequenting the water-weeds and vegetation on the river-banks. When on the ground at first sight they look like Wagtails.

76. ARUNDINICOLA LEUCOCEPHALA.

Arundinicola leucocephala Scl. Cat. B. xiv. p. 37; Arg. Orn. i. p. 122.

a, b, c. ♂ ♀ ad. & young. Monte Alto, Paraguay. Aug. 25, 1909.

d. ♂ young. Alto Paraguay, Bolivia. Oct. 17, 1909.

Iris hazel; bill, legs, and toes black, base of lower mandible pale yellow.

The adult male and female are rather worn.

The August young male is similar to the adult female, but rather paler, and has some long white feathers on the head.

The October young bird is more advanced, having almost assumed the white head, and black feathers are rapidly replacing the cinereous dress of the back and wings and the white of the under parts.

This bird was first observed at Monte Alto and occasionally afterwards to the northward, but was by no means common. It frequented the sandy shores of the river and lagoons, and perched on any outstanding piece of driftwood.

77. Sisopygis icterophrys.

Sisopygis icterophrys Scl. Cat. B. xiv. p. 41; Arg. Orn. i. p. 125.

a, b. ♂ ♀ ad. Los Ynglases, Ajó. Sept. 16, 1908.

c, d, e, f, h, i, j, k. ♂ ♀ ad. Los Ynglases, Ajó. Oct. 10–31, 1908.

l, m. ♂ ad. Los Ynglases, Ajó. Nov. 8, 1908.

n. ♂ ad. „ „ Dec. 11, 1908.

o, p, q, r, s. ♂ ♀ ad. & young. Los Ynglases. Jan. 5–18, 1909.

t. ♀ ad. Los Ynglases, Ajó. Feb. 15, 1909.

u. ♀ ad. „ „ Apr. 23, 1909.

Irides hazel; bill and legs and toes black.

The adult females are not only less bright than the males but have a distinct wash of olive across the chest.

One of the November birds and the December one are much worn and faded, but the other November bird is still quite bright and hardly worn.

The January and February adults are moulting, the old feathers looking much worn and faded against the new plumage; but the April bird, except for the head, has completed the moult.

Neither of the two young birds is quite fledged: they differ from the adults as follows:—

"Above, including head, bright olive-green; wings blackish, broad ends of coverts and outer edges of secondaries pale yellow; beneath, throat very pale yellow; breast striped with dull olive-green.

A common bird in the Tala woods in the Ajó district, to which it is a summer visitor, arriving in the early part of September and leaving again towards the end of April. Miss Runnacles' first record of its appearance for the summer of 1909 is Sept. 8th. The nest is open and cup-shaped and composed of twigs lined with feathers. Usually very little attempt is made at concealment, it being placed in the fork of a low shrub or tree, seldom at any great height, and in a more or less open situation.

The usual clutch of eggs is three, but occasionally four are found.

78. Lichenops perspicillata.

Lichenops perspicillata Scl. Cat. B. xiv. p. 48; Arg. Orn. i. p. 129.

a, b. ♂ ♀ ad. Los Ynglases, Ajó. Nov. 5, 10, 1908.

c, d. ♀ ad. Cape San Antonio. Dec. 16, 21, 1908.

e, f. ♀ ad. Los Ynglases, Ajó. Jan. 2, 29, 1909.

g, h, i, j, k, l, m. ♂ ♀ ad. & young. Los Ynglases, Ajó. Feb. 7–16, 1909.

n. ♀ ad. Monte Alto, Paraguay. Aug. 25, 1909.

o, p. ♂ ad. Bella Vista, N. Argentine. Nov. 12, 1909.

Ad. ♂. Irides, bill and wattles pale Naples-yellow; legs and toes black.

Ad. ♀. Irides, bill and wattles Naples-yellow, much paler than in the male, tip of bill horny; legs and toes black.

Young ♂. Irides raw sienna, eyelid very pale Naples-yellow; bill brown-horn-coloured at tip, white-horn-coloured at base, gape slightly yellow; legs and toes black.

The December and January birds are shewing signs of wear, and the February females are much worn, but are not yet moulting, though the male for the same month is in full moult.

There are four young birds taken in February, three males and one female; and although the female is slightly paler than the male, there is no real difference between them, and, "except for the softer texture of the feathering and the narrower striping of the breast, they are similar to the adult female."

The "Silver-bill" is common and resident in the Ajó district, and a few were observed on the river expedition. It frequents the great swamps, where also it nests, placing the structure at the bottom of a clump of rushes or long grass, usually in a dry spot.

The nest is open and cup-shaped, composed of dry grass and flags, and is very difficult to find, especially as the hen slips off it long before the searcher is anywhere near, and only by carefully watching her can the nest be discovered. The full clutch consists of three eggs, and the young are at first covered with black down.

79. Machetornis rixosa.

Machetornis rixosa Scl. Cat. B. xiv. p. 52 ; Arg. Orn. i. p. 131.

a. ♂ ad.	Los Ynglases, Ajó.	Sept. 14, 1908.
b. ♂ ad.	,, ,,	Nov. 5, 1908.
c. ♀ ad.	Luiconia, ,,	Dec. 29, 1909.
d, e. ♀ ♂ ad. & yg.	Los Ynglases, Ajó.	Feb. 27–Mar. 1, 1909.
f, g, h, i, j. ♂ ad. & yg.	,, ,,	Mar. 3–30, 1909.
k, l. ♀ ad.	,, ,,	Apr. 23, 1909.
m. ♀ ad.	,, ,,	May 11, 1909.
n. ♂ ad.	Villa Franca, Paraguay.	Aug. 10, 1909.
o. ♂ ad.	Monte Alto, ,,	Aug. 25, 1909.
p. ♀ ad.	Colonia Risso, ,,	Sept. 8, 1909.
q. ♂ ad.	Near Goya, N. Argentine.	Nov. 13, 1909.

The February, March, and April adults are moulting and some have almost assumed the new dress.

The November bird from Goya is much worn and is moulting on the chest.

Ad. Irides clear hazel ; bill, legs, and toes black.

A common and resident species in the Ajó district and many individuals were also observed on the river expedition. It is usually seen following the stock about and catching the flies that surround the cattle, horses, and sheep, while it will frequently perch on the backs of the animals.

80. Centrites niger.

Centrites niger Scl. Cat. B. xiv. p. 61 ; Arg. Orn. i. p. 134.

a. ♂ ad.	Los Ynglases, Ajó.	Jan. 29, 1909.
b, c, d, e, ♂ ad. & yg.	,, ,,	Feb. 5–26, 1909.
f, g, h. ♂ ♀ ad. & yg.	,, ,,	Mar. 30, 1909.
i. ♂ young.	,, ,,	April 15, 1909.
j. ♂ ad.	,, ,,	Jan. 11, 1910.

♂. Irides dark brown ; bill, legs, and toes black.

The January, February, and March adults are moulting, the latter birds having almost completed the change.

One of the February young males is in full adult plumage except for the ashy edge to the feathers of the head and under parts.

The April young bird is moulting and the new feathers on the under parts are black, broadly edged and tipped with ashy, which points to an intermediate immature stage before the adult dress is reached.

The young appear to differ from the adult as follows :—

Young male. "Similar to adult female, except perhaps cheeks and throat somewhat paler."

Young female. "Above, including back, brown ; beneath paler ashy than adult."

This species is a winter visitor to the Ajó district, making its appearance about the 8th of January and leaving again in July, Miss Runnacles' last record being the 26th of that month. It usually frequents open ground where little or no vegetation exists, especially well-worn roads and tracks.

In the middle of the winter, when the majority have arrived, as many as thirty or forty may be seen together, continually darting backwards and forwards catching their insect food. When alarmed they will fly for quite considerable distances before alighting, the flight being swift and fairly straight, but always close to the ground.

The young are indistinguishable in life from the adult females, and neither are easily seen on the ground they frequent ; but the black and chestnut adult males make conspicuous objects.

81. TODIROSTRUM CINEREUM.

Todirostrum cinereum Scl. Cat. B. xiv. p. 69.

a. ♂ ad. Rabicho, Brazil. Oct. 8, 1909.

b. ♂ ad. Cabo Emma, Paraguay. Oct. 20, 1909.

Irides pale yellow ; bill very dark slate-coloured ; legs and toes blue-slate-coloured.

82. EUSCARTHMUS MARGARITACEIVENTRIS.

Euscarthmus margaritaceiventer Scl. Cat. B. xiv. p. 80 ; Arg. Orn. i. p. 136.

a. ♂ ad.	Puerto Pinasco, Paraguay.	Sept. 7, 1909.
b, c. ♂ ♀ ad.	Pan de Azucar, Brazil.	Sept. 17, 1909.
d. ♂ ad.	Cabo Emma, Paraguay.	Oct. 20, 1909.

e. ♀ ad.	Puerto Maria, Paraguay.	Oct. 24, 1909.
f. ♀ ad.	Near Villa Franca, ,,	Nov. 6, 1909.

♂. Irides yellow; bill, legs, and toes brown.

♀. Irides pale yellow; bill, legs, and toes horn-brown.

The females taken on the 24th of October and 6th of November were sitting.

Only observed in the undergrowth and very tame. The call is in several syllables and loud and clear.

83. HAPALOCERCUS FLAVIVENTRIS.

Hapalocercus flaviventris Scl. Cat. B. xiv. p. 94; Arg. Orn. i. p. 137.

a. ♀ ad.	Los Ynglases,	Ajó.	Oct. 27, 1908.
b. ♂ ad.	,,	,,	Nov. 4, 1908.
c. ♀ young.	,,	,,	Feb. 9, 1910.

Ad. Irides hazel; bill, legs, and toes dark brown.

The young bird differs from the adult in being:—

"Above more buffy brown than 'mouse-brown,' edgings of the wing-feathers and coverts buffy brown: below bright buff; throat buffy slate, centre of breast and belly and under tail-coverts pale creamy yellow."

A fairly common bird throughout the summer in the Ajó district, frequenting rough situations, including the drier parts of the cañadon. It is retiring in habits, creeping about the tall reeds, thistles, or grass, after the manner of a Sedge-Warbler.

I have only once come across the nest; this was a deep cup-shaped structure composed of water-weeds glued together and attached to the stems of some stout reeds, and except for its larger size was similar to the nest of *Cyanotis rubrigaster*.

84. SERPOPHAGA SUBCRISTATA.

Serpophaga subcristata Scl. Cat. B. xiv. p. 102; Arg. Orn. i. p. 140.

a, b. ♂ ♀.	Los Ynglases,	Ajó.	Sept. 10–18, 1908.
c, d. ♂ young.	,,	,,	Jan. 2, Mar. 10, 1909.
e. ♀ ad.	,,	,,	May 4, 1909.

f. ♂ ad. Colonia Mihanovitch, N. Argentine. Aug. 12, 1909.

g. ♂ ad. Santa Rosa, Paraguay. Aug. 14, 1909.

h. ♂ young. Pan de Azucar, Brazil. Sept. 19, 1909.

Irides dark brown.

The young birds are very similar to the adults, except for the more buffy tips to the wing-coverts, and there is no subcoronal white crest.

A summer visitor to the Ajó district, arriving about September 7th, according to Miss Runnacles, and leaving again about May.

It is a very solitary bird, seen singly or in pairs, hopping about in the trees: the only sound that I have heard it utter is a low sharp chirp.

I have not taken the eggs, but there are two sets in Miss Runnacles' collection, and she remarks: "Of the nesting-habits I know very little, having only taken two nests, one of these being placed in a gorse bush and the other in the middle of a clump of yellow broom: in both cases the number of eggs was three, which is apparently the full clutch."

The nest is deep and cup-shaped.

85. SERPOPHAGA NIGRICANS.

Serpophaga nigricans Scl. Cat. B. xiv. p. 112; Arg. Orn. i. p. 141.

a, b. ♂ ♀ ad. Los Ynglases, Ajó. Sept. 24, 1908.

c, d, e, f, g, h. ♂ ♀ ad. & yg. Los Ynglases, Ajó. Nov. 5–12, 1908.

i, j, k. ♂ ♀ ad. Luiconia, Ajó. Nov. 19–20, 1908.

l. ♂ ad. Los Ynglases, „ Dec. 18, 1908.

m. ♂ ad. „ „ May 30, 1908.

n. ♀ ad. Villa Oliva, Paraguay. Aug. 11, 1909.

Irides hazel; bill, legs, and toes black.

The November and December adults are getting rather worn.

The two young birds were taken from the nest: they are rather greyer than the adults and have no white subcoronal crest.

Quite one of the commonest woodland birds of the Ajó district, where it breeds, placing a cup-shaped nest of lichen and moss lined with feathers in any convenient situation in the fork of a tree or bush, under a bridge, or down the side of a well: three eggs make the complete clutch.

86. Cyanotis rubrigaster.

Cyanotis azaræ Scl. Cat. B. xiv. p. 110; Arg. Orn. i. p. 142.

Cyanotis rubrigaster Sharpe, Hand-l. iii. p. 113.

a, b. ♂ ♀ ad.	Los Ynglases,	Ajó.	Oct. 3, 1908.
c, d. ♂ young.	,,	,,	Mar. 13, 1909.
e, f. ♀ young.	,,	,,	Feb. 16, 1910.

In the female the superciliary stripe is more green than in the male.

The young differs from the adult as follows:—

"Above, head dull black tipped with buff: superciliaries buff in front of eye, white behind; lores and ear-coverts black, the latter tipped with buffy; back and rump green tipped with buff; wings as in the adult, except that the edges of the lesser coverts are buff and the white is tinged with buffy; below, throat and neck buffy white, rest creamy buff with only the faintest indication of the breast-band; tail as in the adult."

Both the March young birds are moulting into the adult stage.

A fairly common bird in the Ajó district and frequenting the great swamps and reed beds, where it nests.

I have not myself taken the eggs, but there are two clutches in the collection of Miss Runnacles, taken at Ajó, the nest being as described by Hudson.

87. Elainea albiceps.

Elainea albiceps Scl. Cat. B. xiv. p. 141; Arg. Orn. i. p. 145; Berlepsch, Ornis, xiv. p. 403.

a. ♀ ad. Los Ynglases, Ajó. Jan. 18, 1909.

Irides hazel; bill dusky brown, base of lower mandible fleshy, gape orange; legs and toes dark sooty brown.

In rather worn plumage, the only one observed in the Ajó district.

88. ELAINEA ALBIVERTEX.

Elainea albivertex Berlepsch, Ornis, xiv. p. 400 (1907).

a. ♂ ad. Curuzu Chica, Paraguay. Oct. 29, 1909.

89. ORNITHION CINERASCENS.

Ornithion cinerascens Allen, Bull. Amer. Mus. ii. p. 231 (1890).

Ornithion obsoletum Scl. Cat. B. xiv. p. 127.

a. ♂ ad. Curuzu Chica, Paraguay. Oct. 29, 1909.

90. EMPIDAGRA SUIRIRI.

Empidagra suiriri Scl. Cat. B. xiv. p. 154; Arg. Orn. i. p. 146.

a, b, c. ♀ ad. Tayru, Paraguay. Aug. 6, 1909.
d. ♀ ad. Santa Rosa, „ Aug. 14, 1909.

Irides hazel; bill, legs, and toes blackish brown.

91. RHYNCHOCYCLUS SULPHURESCENS.

Rhynchocyclus sulphurescens Scl. Cat. B. xiv. p. 168; Arg. Orn. i. p. 147.

a, b. ♂ ♀ ad. Puerto San Juan, Paraguay. Aug. 26, 1909.

c. ♂ ad. Curuzu Chica, Paraguay. Oct. 29, 1909.

Irides hazel; bill, upper mandible black, lower mandible slate-coloured; legs and toes slate-coloured.

92. PITANGUS BOLIVIANUS.

Pitangus bolivianus Scl. Cat. B. xiv. p. 177; Arg. Orn. i. p. 147.

a, b. ♂ ♀ ad. Los Ynglases, Ajó. Nov. 19, 1908.
c, d, e, f, g. ♂ ♀ ad. & yg. „ „ Dec. 1–9, 1908.
h, i, j, k. ♂ ♀ ad. & yg. „ „ Jan. 5–18, 1909.
l, m. ♂ ♀ young. „ „ Feb. 18, 1909.
n, o, p. ♂ ♀ ad. & yg. „ „ Mar. 1–5, 1909.
q. ♂ young. „ „ Dec. 27, 1909.
r, s. ♂ ♀ ad. & yg. „ „ Jan. 4–5, 1910.
t, u, v. ♂ ♀ ad. & yg. „ „ Feb. 14–21, 1910.
w. ♂ ad. Riacho Ancho, N. Argentine. July 30, 1909.
x. ♂ ad. Mortero, Paraguay. Aug. 13, 1909.
y. ♂ ad. Riacho Paraguay, Mirin, Brazil. Oct. 3, 1909.

Ad. Irides hazel; bill and legs and toes black.

Young. Irides pale hazel; bill black, gape pale yellow; legs and toes sooty.

One of the December and the January and February adults are moulting.

One of the young birds in first plumage shot in December has the bases of the feathers of the crown yellow; but this is quite exceptional, as all the others have black crowns.

Several of the young taken in February and March are moulting into the adult dress, whilst others, no doubt of a later brood, are still in young plumage.

This is the commonest of the Tyrannidæ in the Ajó district, where it is resident. It is both insectivorous and carnivorous, and is frequently seen picking the meat off skins and carcases. When I have broken open the nests of Oven-birds, looking for eggs, and left the young exposed, this bird has more than once eaten them up.

The nest is a large untidy structure of wool, grass, and other rubbish placed in any convenient situation in a bush, tree, or on the top of a post, the entrance being at the side. Five eggs appear to be the complete clutch, though a set of six is in Miss Runnacles' collection.

93. MYIODYNASTES SOLITARIUS.

Myiodynastes solitarius Scl. Cat. B. xiv. p. 185; Arg. Orn. i. p. 150.

a. ♂ ad. Near Villa Pilar, Paraguay. Nov. 7, 1909.

"Irides brown; bill black, fleshy at the base of the lower mandible; legs and toes purplish brown."

94. MYIOBIUS NÆVIUS.

Myiobius nævius Scl. Cat. B. xiv. p. 209; Arg. Orn. i. p. 151.

a, b. ♂ ♀ ad. Near Santa Elena, N. Argentine. Nov. 15, 1909.

Irides hazel; bill, upper mandible dark, lower light brown; legs and toes almost black.

The crest in the male is lemon-yellow and in the female cinnamon.

95. Pyrocephalus rubineus.

Pyrocephalus rubineus Scl. Cat. B. xiv. p. 211; Arg. Orn. i p. 152.

a. ♂ ad.	Los Ynglases,	Ajó.	Sept. 26, 1908.
b. ♀ ad.	,,	,,	Oct. 31, 1908.
c, d, e. ♂ ♀ ad.	,,	,,	Nov. 9–12, 1908.
f. ♀ ad.	,,	,,	Dec. 24, 1908.
g, h, i, j. ♂ ♀ ad. et yg.	,,	,,	Feb. 1–3, 1909.
k, l. ♂ young.	,,	,,	Mar. 12–23, 1909.
m. ♂ young.	,,	,,	April 19, 1909.
n, o. ♂ ♀ yg. & ad.	,,	,,	Dec. 27, 1909.
p. ♂ ad.	,,	,,	Jan. 17, 1910.

Irides hazel; bill, legs, and toes black.

One of the adult females has several coloured feathers on the head, another has one on the chest: four other females are tinged with colour on the under tail-coverts, and all are rather worn.

The males appear to have a double moult, one in February and March (the autumn moult) and another in August.

The specimens taken in February, March, and April appear at first sight to be young birds assuming the adult plumage, but I am by no means sure of this; and it strikes me that they are either adults assuming an off-season particoloured dress or are young birds changing from an intermediate to the adult stage. What appears certain is that they are not young in the first dress changing to the full adult plumage, as the ashy feathers of the crown are too dark and without edgings, and the streaked feathers of the under parts are similar to those of the adult female.

The adult male taken on the 3rd of February is moulting, and ashy feathers are appearing on the breast, while many of the new feathers on the moulting March and April birds are particoloured, *i. e.* partly grey and partly red.

But there are some specimens in the British Museum taken in April and May in full red dress that do not bear this out. So that the second conclusion is perhaps the nearer one, that is, that the young do not assume the adult dress in one moult, and have a particoloured stage lasting probably over one season; but I have no skins to prove this absolutely, and the reason for the February adult assuming ashy feathers needs further explanation.

The young in first plumage are:—

"Ashy cinereous above, each feather edged with buffy white, as likewise are the wing-coverts, bastard wing, and inner secondaries; the tail is also tipped with buff; below white or buffy white, striated with ashy on the breast and flanks; under tail-coverts creamy with ashy centres; axillaries and under wing-coverts edged with cream-colour, more ashy in some specimens."

This is a common bird throughout the summer in the Ajó district, but was only once observed during the river expedition, when two males were seen near Pedernal on the 30th of August.

The males are striking and pretty objects and have all the habits of a Flycatcher; but, unlike most of its congeners, this species has the habit of soaring for short distances with rapid beats of the wings from the top of some tree and returning to the same spot.

In the evening it utters a mournful note of "churinche," and probably from this note comes the local name of "Churinche."

The nest is composed of lichen lined with a few feathers and is a very flat structure with a slight cup-shaped depression: as a rule, it is placed in the fork of a tree clothed in lichen, often at no great height, and is extremely difficult to pick out.

96. EMPIDOCHANES FRINGILLARIS.

Empidochanes fringillaris Scl. Cat. B. xiv. p. 216.

a. ♂ ad. Pan de Azucar, Brazil. Sept. 20, 1909.

Irides hazel; bill horn-brown; legs and toes purplish brown.

97. MYIARCHUS TYRANNULUS.

Myiarchus tyrannulus Scl. Cat. B. xiv. p. 251; Arg. Orn. i. p. 156.

a. ♀ ad. Puerto Asir, Paraguay. Aug. 27, 1909.

b. ♀ ad. Pan de Azucar, Brazil. Sept. 20, 1909.

c, d. ♂ ♀ ad. Colonia Mihanovitch, N. Argentine. Nov. 5, 1909.

The November female was sitting. I was unable to distinguish this species in life from *M. ferox.*

98. Myiarchus ferox.

Myiarchus ferox Scl. Cat. B. xiv. p. 253; Arg. Orn. i. p. 156.

a. ♂ ad. Arjerichi, Paraguay. Aug. 9, 1909.
b. ♂ ad. Puerto San Juan, Paraguay. Aug. 26, 1909.
c. ♂ ad. Desaguadero, Paraguay. Aug. 29, 1909.
d. ♂ ad. Sapatero Cué, Paraguay. Sept. 3, 1909.
e. ♂ ad. Riacho Paraguay, Mirin, Brazil. Oct. 2, 1909.
f. ♂ ad. Rabicho, Brazil. Oct. 8, 1909.
g. ♂ ad. Boca de Homiguera, Brazil. Oct. 9, 1909.
h. ♀ ad. Fuerte Olimpo, Paraguay. Oct. 21, 1909.

Irides hazel; bill brown; legs and toes very dark slate-coloured.

Numbers of this Tyrant were observed throughout the river expedition. They were usually seen perched on the tops of the trees, from which they made short flights to catch passing insects.

On the 9th of October at Boca de Homiguera a pair were seen carrying building materials, and were evidently starting to nest.

99. Empidonomus aurantio-atro-cristatus.

Empidonomus aurantio-atro-cristatus Scl. Cat. B. xiv. p. 266; Arg. Orn. i. p. 157.

a. ♂ ad. Boca de Homiguera, Brazil. Oct. 9, 1909.

Irides brown; bill, legs, and toes sooty-black.

100. Tyrannus melancholicus.

Tyrannus melancholicus Scl. Cat. B. xiv. p. 273; Arg. Orn. i. p. 158.

a. ♂ ad. Los Ynglases, Ajó. Feb. 3, 1909.
b. ♂ ad. „ „ Mar. 12, 1909.
c. ♂ ad. „ „ Dec. 29, 1909.

d, e. ♂ ♀ ad. Porto Esperança, Brazil. Oct. 13, 1909.

f, g. ♂ ♀ ad. Colonia Mihanovitch, N. Argentine. Nov. 5, 1909.

Irides hazel; bill, legs, and toes black.

The November birds are shewing signs of wear and fading; and the female on dissection was found to be laying.

The December bird is starting to moult on the back, and the March bird is in full moult and has almost assumed the new feathering on the body.

A rare visitor to the Ajó district, only four being observed there during both my visits.

On the river expedition not many were seen altogether, though at Porto Esperança quite a number were about, which I think had only just arrived there.

101. Milvulus tyrannus.

Milvulus tyrannus Scl. Cat. B. xiv. p. 277; Arg. Orn. i. p. 160.

a, b, c. ♂ ♀ ad.	Los Ynglases,	Ajó.	Oct. 21–27, 1908.
d. ♀ ad.	,,	,,	Jan. 7, 1909.
e. ♀ ad.	,,	,,	Jan. 19, 1910.

f. ♂ ad. Pan de Azucar, Brazil. Sept. 19, 1909.

Irides hazel; bill, legs, and toes black.

The Scissor-tailed Tyrant is a summer visitor to the Ajó district, making its appearance about October and leaving again towards April.

The males appear to arrive first, followed soon after by the females, when breeding operations are commenced, the nest being almost invariably placed on the outside branches either of solitary trees or of those on the edge of the montes, generally in rather conspicuous positions and between from ten to twenty feet from the ground. The fabric is placed on some horizontal branch or in a fork; it is cup-shaped in form, and composed of thistle-down, grass, and wool, the full clutch of eggs being four.

As a rule, this bird is seen perched on wire fences or on the tops of plants in the open camp from which it darts out to catch any passing insect; and it is then that the bird is seen to the best advantage, and the pretty action of opening and closing of the tail as it twists and turns (from which it gets its name) is observed.

The force with which the outer tail-feathers are opened against the air causes them to curve, and hence when the tail is fully opened the tips of the longer feathers almost touch and form a semicircle.

Miss Runnacles' first record of the appearance of this species for 1909 in the Ajó district is October 11th.

102. Tityra brasiliensis.

Tityra brasiliensis Scl. Cat. B. xiv. p. 329.

a. ♂ ad. Coimbrá, Brazil. Oct. 15, 1909.

Irides brown; bill deep slate-coloured, base and orbits dull crimson; legs and toes dark slate-coloured.

103. Platypsaris atricapillus.

Hadrostomus atricapillus Scl. Cat. B. xiv. p. 333.

a. ♂ ad. Cabo Emma, Paraguay. Oct. 20, 1909.

Irides dark brown; bill slate-coloured, upper mandible very dark; legs and toes slate-coloured.

104. Pachyrhamphus viridis.

Pachyrhamphus viridis Scl. Cat. B. xiv. p. 338.

a. ♂ ad. Opposite Rabicho, Brazil. Oct. 10, 1909.

Irides hazel; bill, legs, and toes slaty.

105. Casiornis rubra.

Casiornis rubra Scl. Cat. B. xiv. p. 365; Arg. Orn. i. p. 163.

a. ♂ ad. Puerto San Juan, Paraguay. Aug. 26, 1909.

Irides hazel; bill flesh-coloured at base, horn-coloured at tip; legs and toes purplish brown.

106. Geositta cunicularia.

Geositta cunicularia Scl. Cat. B. xv. p. 5; Arg. Orn. i. p. 165.

a, b. ♂ ♀ ad. Tuyu, Ajó. Nov. 27, 1908.

c. ♂ ad. Los Ynglases, Ajó. Nov. 24, 1908.
d, e. ♂ ♀ ad. " " Jan. 19, 1909.
f, g. ♂ ♀ ad. " " April 20, 1909.

Irides hazel; bill dark brown, paler at base of lower mandible; legs and toes purple-brown.

The November birds are much worn, and the pair taken on the 27th have the wing-feathers and tail almost bleached white. The January birds are moulting.

The Common Miner was usually observed on the banks in pairs, and breeds among the sand-hills, making a hole of about two or three feet deep. In a cavity at the end the eggs are laid on a bedding of dry rubbish, the full clutch being three. There is a clutch of three in Miss Runnacles' collection, taken as late as December 23rd, 1909.

107. FURNARIUS RUFUS.

Furnarius rufus Scl. Cat. B. xv. p. 11; Arg. Orn. i. p. 167.

a. ♂ ad. Los Ynglases, Ajó. Sept. 10, 1908.
b, c, d, e, f. ♂ ♀ ad. " " Oct. 2–12, 1908.
g, h, i. ♂ ♀ yg. ad. " " Nov. 6–4, 1908.
j, k, l. ♂ ♀ ad. & yg. " " Dec. 2–7, 1908.
m. ♂ ad. " " Jan. 25, 1909.
n. ? young. " " Feb. 1, 1909.
o. ♀ ad. Santa Rosa, Paraguay. Aug. 14, 1909.
p, q. ♀ ad. Tayru, Paraguay. Aug. 6, 1909.
r. ♀ ad. Porto Esperança, Brazil. Oct. 13, 1909.
s. ♀ ad. Colonia Mihanovitch, N. Argentine. Nov. 5, 1909.
t. ♂ ad. Near Santa Elena, N. Argentine. Nov. 15, 1909.

From September onwards the birds are shewing signs of wear, and the January bird is moulting, the old feathers being much faded, especially those of the tail.

Young birds can be distinguished from the adults by their more rufous dress, and before they wear off by the blackish tips to the throat-feathers.

Ad. Irides hazel; bill brown, base of lower mandible flesh-colour; legs and toes sooty brown.

Young. Irides hazel; bill, legs, and toes dull brown; gape yellow.

A common and resident species. The description of its habits given by Mr. Hudson needs little addition.

108. FURNARIUS ASSIMILIS.

Furnarius assimilis Scl. Cat. B. xv. p. 14.

a. ♂ ad. Riacho Paraguay, Mirin, Brazil. Oct. 2, 1909.

Irides russet-brown; bill brown, lower mandible paler; legs and toes pale brown.

109. CINCLODES FUSCUS.

Cinclodes fuscus Scl. Cat. B. xv. p. 23; Arg. Orn. i. p. 172.

a, b, c, d, e, f, g, h, i. ♂ ♀ ad. Los Ynglases, Ajó. April 14–23, 1909.

Irides dark brown; bill dark brown; gape yellow; legs and toes dark brown.

A winter migrant from the south, arriving in great numbers throughout April, and remaining for the greater part of the winter. Its favourite place is in the roadways, where it sits on the posts or wires of the fencing.

110. PHLŒOCRYPTES MELANOPS.

Phlœocryptes melanops Scl. Cat. B. xv. p. 33; Arg. Orn. i. p. 174.

a, b, c. ♂ ♀ ad. Tagana de Milan, Ajó. Nov. 15, 1908.
d, e, f. ♂ ad. & yg. Los Ynglases, Ajó. Dec. 3–7, 1908.
g. ♂ young. „ „ Feb. 10, 1909.
h. ♂ ad. „ „ Mar. 11, 1909.

Young ♂. Irides hazel; bill brown, yellow at gape and base of lower mandible; legs and toes ashy.

All the adults are moulting, except one December bird, and all are much worn, except the March bird, which is almost in full feather.

The February young bird has faint blackish tips to the breast-feathers.

A swamp-loving bird, where its peculiar cracking call can be heard: in the Ajó district it is known as the "Hunco cracker."

The nest is a solid structure attached to two or more stems of thick reeds, with entrance at the top side, the hole being protected by an overlapping hood; the nest is lined with feathers, and three eggs appear to be the complete clutch.

111. Leptasthenura platensis.

Leptasthenura ægithaloides Scl. Cat. B. xv. p. 35 (part.); Arg. Orn. i. p. 177.

Leptasthenura platensis Sharpe, Hand-l. B. iii. p. 53.

a. ♂ ad. Los Ynglases, Ajó. Oct. 29, 1908.
b. ♂ ad. ,, ,, Jan 18, 1909.
c. ♀ ad. ,, ,, Feb. 3, 1909.
d. ♂ ad. ,, ,, Mar. 12, 1909.
e. ♂ ad. ,, ,, Apr. 19, 1909.
f. ♂ ad. ,, ,, June 9, 1909.

Irides hazel; bill blackish, pearly at base of lower mandible; legs and toes olive-green.

The October bird is much worn, and the January, February, and March birds are moulting; the April specimen, except for the tail, being in full feather.

Not a common species in the Ajó district, and frequenting the Tala woods; in habits it much resembles the Tits.

112. Synallaxis frontalis.

Synallaxis frontalis Scl. Cat. B. xv. p. 39; Chubb, Ibis, 1910, p. 524 (Paraguay).

a. ♂ ad. Villa Oliva, Paraguay. Aug. 11, 1909.
b. ♀ ad. Puerto Pinasco, ,, Sept. 7, 1909.
c. ♂ ad. Pan de Azucar, Brazil. Sept. 20, 1909.
d, e. ♂ ♀ ad. Near Villa Franca, Paraguay. Nov. 6, 1909.

Irides amber; bill slate-coloured, upper mandible darker; legs and toes dark olive-green.

All the specimens are shewing signs of wear, especially the November birds. The female taken in November was sitting.

Commonly observed throughout Paraguay and in all the open country, where it frequents the long grass.

113. Synallaxis cinnamomea.

Synallaxis cinnamomea Scl. Cat. B. xv. p. 50.

Synallaxis cinnamomea russeola Chubb, Ibis, 1910, p. 526 (Paraguay).

a. ♂ ad. Colonia Risso, Paraguay. Sept. 8, 1909.

Irides pale brown; bill, upper mandible dark brown, lower livid; legs and toes brown.

114. Synallaxis vulpina.

Synallaxis vulpina Scl. Cat. B. xv. p. 52; Sharpe, Hand-l. B. iii. p. 56.

a. ♂ ad. Opposite Rabicho, Brazil. Oct. 10, 1909.

115. Synallaxis phryganophila.

Synallaxis phryganophila Scl. Cat. B. xv. p. 57; Arg. Orn. i. p. 181; Chubb, Ibis, 1910, p. 526.

a, b. ♂ ♀ ad. Villa Oliva, Paraguay. Aug. 11, 1909.

c. ♂ ad. Colonia Mihanovitch, N. Argentine. Aug. 12, 1909.

d. ♀ ad. Cabo Emma, Paraguay. Oct. 20, 1909.

e. ♀ ad. Puerto Maria, ,, Oct. 24, 1909.

Irides red-brown; bill, legs, and toes slate-coloured.

The females have considerably shorter tails than the males, and the October birds are much worn; that taken on the 24th was laying.

Also commonly observed throughout the river expedition, frequenting the same kind of country as *S. frontalis*.

116. Siptornis sordida.

Siptornis sordida Scl. Cat. B. xv. p. 68; Arg. Orn. i. p. 184.

a. ♀ ad. Villa Oliva, Paraguay. Aug. 11, 1909.

Irides brown; bill, upper mandible dark, lower light brown; legs and toes purplish brown.

117. SIPTORNIS SULPHURIFERA.

Siptornis sulphurifera Scl. Cat. B. xv. p. 69.
Synallaxis sulphurifera Arg. Orn. i. p. 185.

a. ♀ ad.	Los Ynglases, Ajó.	Dec. 27, 1908.
b, c. ♂ ? ad. & juv.	„ „	Jan. 4, 1909.
d. ? juv.	„ „	Feb. 7, 1909.
e. ♀ juv.	„ „	Mar. 13, 1909.
f, g. ♂ ♀ young.	„ „	Feb. 3, 14, 1910.

Ad. Irides pale brown; bill horn-coloured, base of lower mandible flesh-coloured; legs and toes purplish brown.

Young. Irides very pale brown; bill horn-coloured, base of lower mandible and gape yellow; legs and toes darkish purplish brown.

Both the adults are much worn, the male having been taken with the nest and eggs.

The young birds differ from the adults as follows:—"Above fawn-brown; forehead and superciliaries dark buff; ear-coverts, cheeks, and whole under side bright buff, with no sulphur-yellow spot in the middle of the throat."

A fairly common species, which frequents the cañadons, where it also breeds, the nest being a dome-shaped structure of dry grass with the entrance-hole at the side, suspended in the thick grass or rushes; three eggs apparently make the complete clutch.

118. SIPTORNIS HUDSONI.

Siptornis hudsoni Scl. Cat. B. xv. p. 70; Arg. Orn. i. p. 186.

a, b, c. ♂ ♀ ad.	Los Ynglases, Ajó.	Nov. 10–30, 1908.
d, e. ♂ young.	„ „	Dec. 1, 1908.
f, g. ♂ ad.	Cape San Antonio.	Dec. 17–21, 1908.
h. ♀ ad.	Los Ynglases, Ajó.	Jan. 21, 1909.
i, j. ♂ ♀ ad.	„ „	Feb. 4, 1909.
k. ♂ young.	„ „	Mar. 21, 1909.

Young. Irides hazel; bill horn-coloured, yellow at gape; legs and toes ashy flesh-coloured.

The December adults are worn and have almost lost the ashy edges to the feathers, and the February birds are moulting.

The young in December were taken from the nest.

The throat-patch varies from pale sulphur-yellow to deep cinnamon; in most specimens each feather has a black centre at the tip, in others this is entirely wanting.

The young bird taken in March is fully fledged, and differs from the adults as follows:—

"Margins of back and wing-feathers much broader than in the adult and more buffy; gular patch faint; throat and neck finely speckled; breast and flanks with broad black centres to each feather."

A common species which frequents the open grass country, where it is skulking in habits and reluctantly takes to flight.

The nest is difficult to find, owing to the bird sneaking off and hiding in the grass; it is placed on the ground in thick grass and is a dome-shaped structure of dead grass, lined with feathers.

In both nests that I secured there were eggs of *Molothrus bonariensis.*

119. SIPTORNIS MALUROIDES.

Siptornis maluroides Scl. Cat. B. xv. p. 72; Arg. Orn. i. p. 188.

a. ♀ ad.	Cape San Antonio.	Dec. 17, 1908.
b. ♀ young.	Luiconia, Ajó.	Jan. 8, 1909.
c. ? young.	Los Ynglases, Ajó.	Jan, 6, 1909.
d, e. ♂ ad. & yg.	„ „	Feb. 7, 1909.
f, g. ♂ ad. & yg.	„ „	Feb. 10, 1910.

Irides very pale yellow; bill, upper mandible dark, lower pale horn-coloured; legs and toes pale horn-coloured.

The adult of February 1909 is moulting.

The young birds differ from the adults as follows:—

"Forehead and middle of crown fulvous brown, slightly striated with blackish; beneath pale buff, striations on flanks less distinct than in the adult and the black specklings of the throat and chest more numerous."

The young bird taken on February 10 is moulting very slightly and has one chestnut feather in the head.

This Spine-tail frequents the rushes and reeds, where it creeps about after the manner of a Sedge-Warbler, and is not, as a rule, easy to shoot.

I took three eggs at Ajó: the nest, a mere bedding of dead grass, being placed on the ground in a dry part of the swamp.

120. ANUMBIUS ACUTICAUDATUS.

Anumbius acuticaudatus Scl. Cat. B. xv. p. 75; Arg. Orn. i. p. 189.

a, b. ♂ ♀ ad. Los Ynglases, Ajó. Sept. 12–Oct. 28, 1908.

c, d, e. ♂ ♀ ad. & young. Los Ynglases, Ajó. Jan. 25–Mar. 23, 1909.

Irides hazel; bill pale brown; legs and toes pale yellowish livid.

Both the September and October birds are worn and faded.

The February and March birds are in moult, the latter having almost completed it.

The young bird is very similar to the adult, but is paler generally, especially below, and has much less chestnut on the forehead.

This is a common resident in the Ajó district, and spends more of its time on the ground than in the trees. It has a clear and trilling note.

The nest is a large structure of sticks, generally thorny, placed in a tree or bush, the hole being at the top, whence a zigzag tunnel leads down to the nest; it is warmly lined, often along the whole length of the tunnel also, with wool.

121. PHACELODOMUS RUFIFRONS.

Phacelodomus rufifrons Scl. Cat. B. xv. p. 80.

Phacellodomus frontalis Arg. Orn. i. p. 192.

a, b. ♂ ♀ ad. Puerto Maria, Paraguay. Oct. 24, 1909.

Irides dark grey; bill dark slate-coloured, lower mandible ashy; legs and toes slate-coloured.

This pair had a nest of sticks at the top of a palm-tree, and were, I believe, sitting, though I was unable to get up to the nest.

122. PHACELODOMUS STRIATICOLLIS.

Phacelodomus striaticollis Scl. Cat. B. xv. p. 82; Arg. Orn. i. p. 194.

a, b, c. ♂ ♀ ad. & young. Cape San Antonio. Dec. 18–19, 1908.

d. ♀ young. Los Ynglases, Ajó. Jan. 5, 1910.

Both the adults are much worn, and the female has a tinge of chestnut on the back.

"Irides bright yellow; bill, legs, and toes pale slate-coloured, upper mandible darker."

The young are similar, excepting that the December bird has a paler throat, is brighter on the breast and flanks, and has a darker bill. They differ from the adults as follows:—

"Above dull russet-brown, crown dull chestnut; beneath pale creamy white, breast and flanks slightly washed with reddish brown; edges of secondaries russet-brown.

"Irides dark blue-grey; bill dark horn-coloured, greater part of lower mandible and gape pale yellow; legs and toes ashy."

A fairly common species which inhabits rough grass-lands and the cañadons; it has a whistling call.

The nest is usually placed in a low solitary tree or shrub, and is a longish structure of sticks placed almost horizontally, the entrance being at the higher end with a tunnel communicating with the nesting cavity; it is lined with wool and hair.

123. PHACELODOMUS RUBER.

Phacelodomus rufipennis Scl. Cat. B. xv. p. 83, pl. v.

Phacelodomus ruber Chubb, Ibis, 1910, p. 528 (Paraguay).

a, b. ♂ ♀ ad. Colonia Mihanovitch, N. Argentine. Aug. 12, 1909.

c, d. ♂ ♀ ad. Colonia Mihanovitch, N. Argentine. Nov. 5, 1909.

e. ♀ ad. Bella Vista, N. Argentine. Nov. 12, 1909.

The November specimens are very much worn and that from Bella Vista has started its moult.

Many individuals of this Thorn-bird were observed at Colonia Mihanovitch and several nests were examined, but none contained eggs, though the female shot on the 5th of November was laying.

The nest is a fair-sized structure of sticks suspended from the overhanging branches of a tree, the entrance being from below and the nesting-chamber near the top.

124. HOMORUS CRISTATUS.

Homorus cristatus Scl. Cat. B. xv. p. 86.

Pseudosizura cristata Sharpe, Hand-l. B. iii. p. 65 (1901).

a. ♂ ad. Pasage de Bagre, Brazil. Sept. 29, 1909.

Irides pale yellow; bill blue-slate-coloured; legs and toes olive-green.

125. SITTASOMUS CHAPADENSIS.

Sittasomus chapadensis Ridgw. Pr. U.S. Nat. Mus. xiv. p. 509.

a. ? ad. Riacho Ancho, N. Argentine. July 30, 1909.

b. ♂ ad. Pan de Azucar, Brazil. Sept. 20, 1909.

Irides brown; bill, legs, and toes slate-coloured.

126. XIPHOCOLAPTES MAJOR.

Xiphocolaptes major Scl. Cat. B. xv. p. 145; Arg. Orn. i. p. 201; Chubb, Ibis, 1910, p. 532 (Paraguay).

a. ♂ ad. Puerto San Juan, Paraguay. Aug. 26, 1909.

b. ♀ ad. Near Villa Pilar, Paraguay. Nov. 7, 1909.

Irides rich red-brown; bill pearly slate-coloured; legs and toes dark olive-green.

The female is of a brighter colour on the head than the male, and was laying.

127. PICOLAPTES ANGUSTIROSTRIS.

Picolaptes angustirostris Scl. Cat. B. xv. p. 155; Arg. Orn. i. p. 201; Chubb, Ibis, 1910, p. 534 (Paraguay).

a. ♀ ad. Riacho Ancho, N. Argentine. Aug. 1, 1909.

b. ♂ ad. Tayru, Paraguay. Aug. 6, 1909.

c. ♀ ad. Desaguadero, Paraguay. Aug. 29, 1909.

d. ♀ ad. Sapatero Cué, Paraguay. Sept. 3, 1909.

e. ♂ ad. Colonia Mihanovitch, N. Argentine. Nov. 5, 1909.

f. ♂ ad. Near Santa Elena, N. Argentine. Nov. 15, 1909.

Irides hazel; bill fleshy brown; legs and toes purple.

These specimens vary slightly, some being paler and others darker. None shew much signs of wear, and that shot on the 15th of November is in perfect plumage, but is apparently not young.

The males have rather shorter bills than the females.

Numbers of this bird were seen: they had much the habits and actions of Tree-creepers (*Certhia*). The call is loud.

128. PICOLAPTES BIVITTATUS.

Picolaptes bivittatus Scl. Cat. B. xv. p. 155.

a. ♂ ad. Riacho Paraguay, Brazil. Oct. 3, 1909.

129. XIPHORHYNCHUS TROCHILIROSTRIS.

Xiphorhynchus trochilirostris Scl. Cat. B. xv. p. 159.

a. ♂ ad. Riacho Paraguay, Brazil. Oct. 3, 1909.

b. ♂ ad. Opposite Rabicho, Brazil. Oct. 10, 1909.

Irides hazel; bill pale brown; legs and toes olive-green.

130. DENDROCOLAPTES PICUMNUS.

Dendrocolaptes picumnus Scl. Cat. B. xv. p. 170; Chubb, Ibis, 1910, p. 534.

a. ♂ ad. Mortero, Paraguay. Aug. 13, 1909.

Irides hazel, eyelid yellow; bill dark brown, gape yellow; legs and toes greenish ash.

131. THAMNOPHILUS MAJOR.

Thamnophilus major Scl. Cat. B. xv. p. 186; Arg. Orn. i. p. 203.

a. ♂ ad. Riacho Ancho, N. Argentine. July 30, 1909.

b. ♂ ad. Desaguadero, Paraguay. Aug. 29, 1909.

c. ♂ ad. 10 miles above Villa Pilar, Paraguay. Aug. 7, 1909.

d. ♀ ad. 10 miles below Boca de Homiguera, Brazil. Oct. 12, 1909.

e. ♂ ad. Curuzu Chica, Paraguay. Oct. 29, 1909.

f. ♂ ad. Near Goya, N. Argentine. Nov. 13, 1909.

♂. Irides red; bill slate-coloured, black at tip; legs and toes slate-coloured.

♀. Irides deep rich orange; bill, legs, and toes slate-coloured.

Commonly observed, frequenting the low scrub and undergrowth in the forests and the edges of the swamps.

132. THAMNOPHILUS CÆRULESCENS.

Thamnophilus cærulescens Scl. Cat. B. xv. p. 200; Arg. Orn. i. p. 204.

a. ♂ ad. Arjerichi, Paraguay. Aug. 9, 1909.

Irides hazel; bill, upper mandible black, lower slaty; legs and toes slaty.

Call a loud and clear "qua qua."

133. THAMNOPHILUS RADIATUS.

Thamnophilus radiatus Scl. Cat. B. xv. p. 210; Chubb, Ibis, 1910, p. 520 (Paraguay).

a, b. ♂ ♀ ad. Boca de Homiguera, Brazil. Oct. 9, 1909.

c. ♂ ad. Cabo Emma, Paraguay. Oct. 20, 1909.

♂ ♀. Irides yellow; bill, legs, and toes blue-slaty, culmen black.

134. FORMICIVORA RUFA.

Formicivora rufatra Scl. Cat. B. xv. p. 250.

Formicivora rufa Allen, Bull. Amer. Mus. ii. p. 253 (1889); Sharpe, Hand-l. B. iii. p. 25.

a. ♀ ad. Albuquerque, Brazil. Oct. 1, 1909.

Irides hazel; bill, legs, and toes blue-slaty.

135. CERCOMACRA MELANARIA.

Cercomacra melanaria Scl. Cat. B. xv. p. 268.

a, b. ♂ ♀ imm. & ad. Albuquerque, Brazil. Oct. 1, 1909.

c. ♂ imm. Rabicho, Brazil. Oct. 8, 1909.

d. ♂ ad. Boca de Homiguera, Brazil. Oct. 9, 1909.

e, f. ♂ ♀ ad. 10 miles below Boca de Homiguera, Brazil. Oct. 12, 1909.

♂. Irides grey-brown; bill black; legs and toes slate-coloured.

♀. Bill slate-coloured; otherwise as male.

The young males are moulting from the grey plumage to the black.

Very few examples of this bird were seen: it was observed frequenting the thick undergrowth along the river-bank and was very tame.

[To be continued.]

IV.—*On the Birds of the Cayman Islands, West Indies.*

By Percy R. Lowe, B.A., M.B.(Cantab.), M.B.O.U.

(Text-figure 7.)

(i.) *Introductory Remarks.*

In the following paper I have endeavoured to compile a list of the Birds of the Cayman Islands on the lines of the "Revised List of the Birds of Jamaica," by Dr. P. L. Sclater, which was published in the 'Handbook of Jamaica' for 1910.

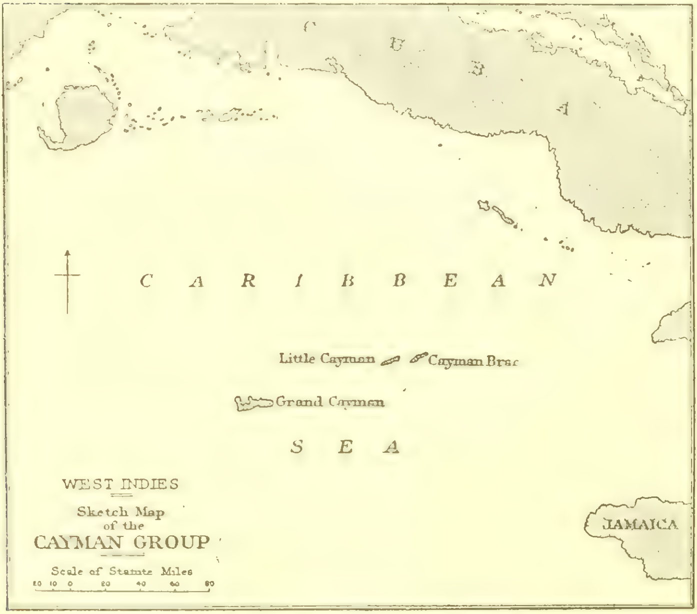
The Cayman Islands (see text-fig. 7, p. 138), which form a political dependency of Jamaica, are situated in the western end of the Caribbean Sea, between the meridians of 79° 44′ and 81° 26′ W., and the parallels of 19° 49′ and 19° 46′ N. They consist of three islands — Grand Cayman, Little Cayman, and Cayman Brac.

The island of Grand Cayman is seventeen miles in length and between four and seven miles in width.

Little Cayman and Cayman Brac are each about nine miles long by one and a half wide. They lie about six miles apart. The west end of Little Cayman is some sixty miles from Grand Cayman, and the whole group is distant about a hundred and eighty miles in a north-westerly direction from Jamaica. Grand Cayman lies one hundred and seventy-five miles to the south of the nearest point of Cuba. Cayman Brac is nearer by some eighty miles.

A word on the subject of the geology of the islands may be of interest and is necessary in order to appreciate the main features of their avifauna, for although politically a dependency of Jamaica, geologically speaking the Caymans are quite distinct.

Text-fig. 7.


C U B A
C A R I B B E A N
Little Cayman
Cayman Brac
Grand Cayman
S E A
WEST INDIES
Sketch Map
of the
CAYMAN GROUP
Scale of Statute Miles
20 10 0 20 40 60 80
JAMAICA

Sketch-map of the Cayman Islands.

If a map shewing the contours of the sea-bed in this part of the Caribbean is examined (*cf.* Agassiz, "Three Cruises of the 'Blake,'" Bull. Mus. Comp. Zool. Harvard, vol. xiv. (1888) p. 99, fig. 57), it will be seen that a deep submarine ridge extends from Cape Cruz, the most southerly point of Cuba, right across this western division of the Caribbean Sea into the Bay of Honduras.

The major part of this ridge lies at a depth of 1000 fathoms, but here and there along its length portions of it have been upraised so that they are only some 500 fathoms or less beneath the surface. On these last elevations or plateaux appear still more elevated areas or banks, the summits of which have attained to the level of the "plane of the limiting line of sedimentation," or, in other words, to the level at which reef-building coral organisms can flourish. These reef-building organisms have been solely answerable for the formation of the Caymans, which are purely coral islands. In this respect, therefore, the Caymans differ from all the other West Indian Islands except the Bahamas.

Immediately to the south of the submarine ridge on which the islands are situated, and between them and Jamaica, there stretches a profoundly deep submarine valley known as "Bartlett's Deep." The average depth of Bartlett's Deep is 18,000 feet, but a long trough, which represents its deepest part and which is situated, so to speak, at the very foot of the stupendous range of which the Caymans form the summit, has a depth of 22,000 feet. The water between Cayman Brac and Cape Cruz, the nearest point of Cuba, attains to a depth of 3000 feet.

To all intents and purposes, then, so far as the avifauna of the Caymans is concerned, we may look upon them as pseudo-oceanic islands. They are obviously of very recent origin, things of yesterday as compared with the other Antillean Islands, and the only way in which they have been "colonized" has been by the agency of wind and marine currents.

We should consequently not expect to find any very marked changes of a specific character, still less of generic importance, in the resident land-birds which characterize the avifauna of the Caymans. Nor do we find such changes. It is, however, remarkable how in many cases these resident land-birds have come to shew either greater or smaller differences from their allies of the neighbouring islands. The direction of the trade-winds would seem to favour colonization from Cuba rather than from Jamaica, but we must make allowance for chance storms and hurricanes.

Grand Cayman and Little Cayman are exceedingly flat and very little raised above sea-level, being neither more nor less than upraised level reefs of coral limestone. Cayman Brac is somewhat higher. It is wedge-like in appearance. The thick end of the wedge, which is situated at the east end of the island, rises almost perpendicularly to a height of eighty feet or more. The coral limestone of which the islands are composed has naturally been much worn and weathered by wind and rain, and supports a scanty but fertile soil.

As regards the flora, there is, at any rate at the present day, no luxuriant forest; the greater part of the islands being covered, where not converted into plantations, with thick scrub consisting of logwood, fustic, ironwood, and a few mahogany trees, while low bushes and creepers are thickly interspersed. Where the soil is more sandy there are large areas of thatch-palm scrub.

A feature of the physical condition of the islands is the number of marshy areas and boggy pools. These marshy spots are covered or dotted with rank grass and other marsh-loving vegetation, and are often surrounded by thick belts of mangrove trees in which birds swarm. Along the northern shore of Grand Cayman these mangroves flourish particularly well and grow to a great height. Although there are large areas of uncleared scrub and useless marsh, the islands (Grand Cayman especially) are thickly dotted with small plantations which harbour a noticeably large quantity of birds. We know, indeed, of few islands in the West Indies where birds are more plentiful or where the conditions are more favourable to bird-life.

We must acknowledge, however, that the general avian picture is entirely changed in summer after the departure of the hosts of American migrants which visit the islands for the winter months only.

So far as I have been able to ascertain, nothing was known of the birds of the Cayman Islands prior to the year 1886—at any rate, as far as professed ornithologists are concerned. In the summer of that year Mr. W. B. Richardson visited the islands on behalf of Mr. C. B. Cory, the well-known American authority on West-Indian birds. As the result of this expedition Mr. Cory published a description of no less than thirteen new species of birds which had been found on the Grand Cayman alone ('Auk,' iii. pp. 497–502, 1886). Following this he described a new *Vireo* from the same island in 1887 ('Auk,' iv. p. 7, 1887), and published a list of the birds collected by Mr. C. J. Maynard on the islands of Little Cayman and Cayman Brac in 1889 ('Auk,' vi. p. 30, 1889). In May 1887, Mr. Charles H. Townsend paid a short visit to Grand Cayman, and Mr. Robert Ridgway described, among other birds contained in his small collection, a new species of *Dendrœca* (Proc. U.S. Nat. Mus. vol. x. 1887).

From this date until the year 1896, when Mr. Taylor, of Jamaica, went there on behalf of the Tring Museum, no other collector seems to have visited the islands. Mr. Taylor made a magnificent collection of birds which are now in Mr. Walter Rothschild's Museum, and among them were examples of a new species of Finch from Grand Cayman which Dr. Hartert described as *Melopyrrha taylori* (Nov. Zool. vol. iii. p. 257, 1896).

In January 1904, while on board the yacht 'Emerald' chartered by Sir Frederic Johnstone, I had the opportunity, in company with the late Dr. Bowdler Sharpe, of seeing something of the bird-life on all the three Caymans.

On two other occasions I have visited the Grand Cayman and Little Cayman with Sir Frederic, and I have written a few remarks on some birds which I collected there ('The Ibis,' 1909, pp. 339–347).

In March 1904, Lord Crawford visited the Caymans in his yacht the 'Valhalla,' and Mr. M. J. Nicoll, who accompanied him, made a collection of birds which he described in 'The Ibis' of the same year. Among these birds were specimens of two new species, which Mr. Nicoll described as *Pitangus caymanensis* and *Dendroica crawfordi*.

An examination of the list of birds given below reveals the fact that the avifauna of the Cayman Islands, as at present known to us, comprises some 75 species. This small total is almost certainly due to two reasons—first, that the collectors who have visited the islands since 1886 have naturally confined their work chiefly to the land-birds; secondly, that there appear to have been no local naturalists sufficiently interested to make records of the migratory and casual birds which visit the islands. Of the 75 species already recorded, about 40 would appear to be resident; the remainder being made up of winter visitors, of birds which pass through on migration in the autumn or spring, and of casual stragglers.

Of the 40 resident birds, 20 are peculiar to one or other of the Caymans, or to all three, and do not occur elsewhere. But with regard to this division we are bound to state that in the case of one or two, or even more, we have experienced the greatest difficulty in appreciating the distinctions on which they have been considered to rank as new species or subspecies. The remaining 20 resident birds comprise those which have a more or less wide range outside the islands. Of these *Dendrœca vitellina* is found nowhere else but in Swan Island, while in the case of *Amazona leucocephala, Myiarchus sagræ*, and *Holoquiscalus gundlachi*, the only other known locality in which they are found is Cuba.

The Ground-Dove, again, is only found elsewhere in Jamaica.

The following is a list of those species and subspecies which have been considered to be absolutely peculiar to the Cayman Islands:—

Species and Subspecies.	Grand Cayman.	Little Cayman.	Cayman Brac.
Zenaida spadicea	*	*	
Leptoptila collaris	*		
Amazona caymanensis	*		
Colaptes gundlachi	*		
Melanerpes caymanensis	*		
Elainea martinica caymanensis			
Elainea martinica complexa	..	..	*
Tolmarchus caudifasciatus caymanensis	*	..	? *
Mimocichla ravida	*		
Mimocichla rubripes coryi	..	..	*
Vireosylva caymanensis	*	*	*
Vireo crassirostris alleni	*	..	*
Dendrœca petechia auricapilla	*	*	
Dendrœca crawfordi	..	*	
Melopyrrha taylori	*		
Euethia olivacea coryi	..	..	*
Spindalis salvini	*		
Cœreba sharpii	*	*	*
Icterus bairdi	*		
Holoquiscalus caymanensis	*		

Note.—Mr. Cory has considered the *Myiarchus* found on Grand Cayman to be worthy of specific rank, and has given it the name of *denigratus*. I think that there can be no question that the bird is identical with *M. sagræ* of Cuba. Mr. Ridgway considers the Ground Dove to be peculiar to the island so far as subspecific rank is concerned. He calls it *insularis*.

From this list it will be noticed that there are no genera peculiar to the islands. The genus *Melopyrrha* is, however, met with in no other locality except Cuba.

Mr. Ridgway (Birds North & Middle Amer. pt. i. p. 562) says: "This genus is an exaggeration of *Sporophila*, but between the most similar species of the latter and the type of *Melopyrrha* there is a considerable gap."

Spindalis is a well-marked genus which, with the exception of Cozumel Island off Yucatan (*S. benedicti*), is restricted elsewhere to the Bahamas and the Greater Antillean Islands (Cuba, Hispaniola, Jamaica, Porto Rico). The species peculiar to Grand Cayman is very distinct.

Mimocichla is another interesting genus restricted elsewhere to the Bahamas, Cuba, Hispaniola, Porto Rico, and

Dominica. If we accept Mr. Ridgway's new genus *Haplocichla*, its occurrence in Jamaica is ruled out of court.

It is interesting to note that Humming-Birds are not found in the Caymans. Practically every other island which is not a mere rock in the Caribbean basin contains some of these birds. The only exception that I am acquainted with is Swan Island. It is all the more curious since the flora seems perfectly suitable. Orchids are met with in profusion in all three islands, and on Grand Cayman *Schomburgkia thomsoniana* is peculiar and found nowhere else.

Finally, we may remark that there appears to be every possibility of very greatly adding to the present number of birds recorded from the Caymans, especially as regards those merely passing through on their way south or north in autumn and spring.

The Caymans, Mysteriosa Bank, and Swan Island seem to lie along an old migratory track across the Caribbean Sea, the lines of which are suggested by the sunken submarine ridge joining Cuba with Honduras, to which I have previously referred, and also by the sunken land now represented by the Mosquito, Rosalind, Serranilla, and Pedro Banks, which apparently once formed a link between Jamaica, Honduras, and Nicaragua.

During the periods of migration various species of Ducks, besides other birds which we need not mention here, pass regularly over Swan Island and settle there, and during these migratory times the islanders notice a great influx of birds of prey, which apparently come in order to pick off stragglers. Doubtless the same thing occurs in the Caymans, so that it appears to me that these islands would form a most interesting station for observing the passage of migrants north and south.

(ii.) *List of the Birds of the Cayman Islands.*

1. Columba leucocephala. (Bald-pate Pigeon.)

Columba leucocephala Cory, Auk, vi. p. 32 (1889: Cayman Brac); Sharpe, Hand-l. B. i. p. 70 (1899).

Hab. Central and South America; fairly common in the Grand Cayman, and also found in Cayman Brac: resident.

2. Zenaida meridionalis. (Pea-Dove.)

Zenaida amabilis Cory, Auk, vi. p. 32 (1889: Cayman Brac).

Zenaida meridionalis Sharpe, Hand-l. B. i. p. 76 (1899).

Hab. Antillean Islands.

Mr. C. J. Maynard found this Dove on Cayman Brac in 1889.

3. Zenaida spadicea. (Cayman Pea-Dove.)

Zenaida spadicea Cory, Auk, iii. p. 498 (Grand Cayman); Nicoll, Ibis, 1904, p. 587 (Little Cayman); Lowe, Ibis, 1909, p. 341 (Little Cayman); Sharpe, Hand-l. B. i. p. 76 (Grand Cayman).

Zenaida richardsoni Cory, Auk, iv. p. 7 (1887: Little Cayman).

Hab. Peculiar to the Cayman Islands: common on Little Cayman: resident.

4. Chamæpelia jamaicensis. (Jamaica Ground-Dove.)

Columbigallina passerina Cory, Auk, iii. p. 502 (1886: Grand Cayman); id. Auk, vi. p. 32 (1889: Cayman Brac).

Columbigallina passerina insularis Ridgw. Proc. U.S. Nat. Mus. vol. x. p. 574 (1887: Grand Cayman).

Chamæpelia passerina Nicoll, Ibis, 1904, p. 585 (Grand Cayman).

Chamæpelia jamaicensis Lowe, Ibis, 1909, p. 341 (Grand and Little Cayman).

Chamæpelia insularis Sharpe, Hand-l. B. i. p. 82 (1899).

Hab. Peculiar to Jamaica and the Cayman Islands: common and resident.

5. Leptoptila collaris. (Cayman White-bellied Dove.)

Engyptila collaris Cory, Auk, iii. p. 498 (1886: Grand Cayman).

Leptoptila collaris (Cory); Sharpe, Hand-l. B. i. p. 87 (1899: Grand Cayman).

Hab. Peculiar to Grand Cayman: resident.

6. Gallinula galeata. (American Water-hen.)

Gallinula galeata (Licht.); Cory, Auk, iii. p. 502 (1886: ? Grand Cayman, ? Little Cayman); Nicoll, Ibis, 1904, p. 586 (Grand Cayman); Sharpe, Hand-l. B. i. p. 107 (1899).

Hab. North and South America: resident, fairly common on Grand Cayman.

7. Arenaria interpres. (Turnstone).

Arenaria interpres (Linn.); Cory, Auk, iii. p. 502 (1886: Grand Cayman); id. Auk, vi. p. 32 (1889: Cayman Brac); Ridgw. Proc. U.S. Nat. Mus. vol. x. p. 575 (1887: Grand Cayman); Sharpe, Hand-l. B. i. p. 146 (1899).

Strepsilas interpres Nicoll, Ibis, 1904, p. 586 (Grand Cayman).

Hab. Cosmopolitan: a winter visitor to the Caymans, but "birds of the year" may be resident for a year or more.

8. Ægialitis semipalmata. (Semipalmated Shore-Plover.)

Ægialitis semipalmata Cory, Auk, iii. p. 502 (1886: Grand Cayman); id. Auk, vi. p. 32 (1889: Cayman Brac).

Ægialeus semipalmatus Sharpe, Hand-l. B. i. p. 154 (1899).

Hab. North America: this bird is resident in Jamaica and breeds there. Whether it does so in the Caymans I am unaware. I have included it among the residents.

9. Totanus flavipes. (Yellow-legged Sandpiper.)

Totanus flavipes Cory, Auk, iii. p. 502 (1886); Sharpe, Hand-l. B. i. p. 160 (1899).

Hab. North America: a winter visitor to the Caymans.

10. Tringoides macularius. (Spotted Sandpiper.)

Actitis macularia Cory, Auk, iii. p. 502 (1886: Grand Cayman); id. Auk, vi. p. 31 (1889: Little Cayman, Cayman Brac).

Tringoides macularius Sharpe, Hand-l. B. i. p. 161 (1899).

Hab. N. America: winter visitor. This bird sometimes nests in Jamaica; it is possible that it may do so also in the Caymans.

11. Ereunetes pusillus. (Little Stint.)

Ereunetes pusillus Cory, Auk, iii. p. 502 (1886); Sharpe, Hand-l. B. i. p. 162 (1899).

Hab. North America: winter visitor to the Caymans.

12. Limonites minutilla. (Least Stint).

Tringa minutilla Cory, Auk, iii. p. 502 (1886).

Limonites minutilla Sharpe, Hand-l. B. i. p. 163 (1899).

Hab. North America: winter visitor to the Caymans.

13. Heteropygia maculata. (Pectoral Sandpiper.)

Tringa maculata Vieill.; Cory, Auk, iii. p. 502 (1886).

Heteropygia maculata (V.); Sharpe, Hand-l. B. i. p. 163 (1899).

Hab. North America: winter visitor to the Caymans

✓14. Gallinago delicata. (Wilson's Snipe.)

Gallinago delicata Sharpe, Hand-l. B. i. p. 165 (1899).

Hab. North America: winter visitor to the West Indies and Central America.

I shot one or two examples of this bird in some marshes on the southern side of Grand Cayman. I have found no other records of its occurrence there.

✓15. Hydranassa ruficollis. (Red-necked Egret.)

Ardea tricolor ruficollis Cory, Auk, iii. p. 502 (1886: Grand Cayman, Little Cayman).

Hydranassa ruficollis Sharpe, Hand-l. B. i. p. 197 (1899).

Hab. Temperate E. N. America to C. America, West Indies. Whether this bird breeds in the Cayman Islands I am unable to say, but it does so in Cuba and Jamaica.

16. Nyctanassa violacea. (Yellow-crowned Night-Heron.)

Nycticorax violaceus (Linn.); Cory, Auk, iii. p. 502.

Nyctanassa violacea (Linn.); Sharpe, Hand-l. B. i. p. 197 (1899).

I have a specimen in my collection which I took in Cayman Brac.

Hab. Central and South America: fairly common in the Caymans, resident.

✓17. Butorides virescens. (Little Green Bittern.)

Ardea virescens Linn.; Cory, Auk, iii. p. 502 (1886: Grand Cayman); id. Auk, vi. p. 32 (1889: Cayman Brac).

Butorides virescens Nicoll, Ibis, 1904, p. 585 (Grand Cayman); Sharpe, Hand-l. B. i. p. 200 (1899).

Hab. North and Central America, West Indies: common in the Caymans, resident.

18. Botaurus lentiginosus. (American Bittern.)

Botaurus lentiginosus Sharpe, Hand-l. B. i. p. 204 (1899).

One ad. ♀. 28. i. 04. Grand Cayman (coll. P. R. Lowe).

Hab. North and Central America: winter visitor to the West Indies.

This was the only individual that I saw in the Caymans.

19. Sula piscatrix. (Red-footed Booby.)

Sula cyanops (Sundev.); Cory, Auk, vi. p. 31 (Little Cayman, Cayman Brac).

Sula coryi Maynard, Contrib. to Science, no. 1, vol. i. p. 40 (1889: Little Cayman).

Sula piscator Nicoll, Ibis, 1904, p. 588 (Little Cayman).

Sula piscatrix Sharpe, Hand-l. B. i. p. 237 (1899).

Hab. Widely distributed in the tropical seas; I have several examples in my collection from Little Cayman, where there is a large "rookery."

20. Fregata aquila. (Greater Frigate-Bird.)

Fregata aquila Nicoll, Ibis, 1904, p. 589 (Little Cayman); Sharpe, Hand-l. B. i. p. 237 (1899).

Hab. Widely distributed in the tropical seas; I have taken specimens of the young in Little Cayman, where the bird breeds.

✓21. Falco columbarius. (American Merlin.)

Falco columbarius Sharpe, Hand-l. B. i. p. 275 (1899).

One ad. ♂. 27. ii. 05. Little Cayman (coll. P. R. Lowe).

One ad. ♂. 26. i. 04. Grand Cayman (coll. P. R. Lowe).

Hab. North America and the Antilles; I shot the two above-mentioned examples in the Caymans myself. No other records.

22. Strix flammea furcata. (American Barn-Owl.)

Strix flammea furcata Cory, Auk, iii. p. 502 (1886 : Grand Cayman or (?) Little Cayman).

Strix furcata Sharpe, Hand-l. B. i. p. 300 (1899).

Hab. North America Stated by Gosse to be resident in Jamaica ; whether it is so in the Caymans I do not know, but it is highly probable.

✓23. Amazona leucocephala.

Chrysotis leucocephala Cory, Auk, vi. p. 32 (1889 : Cayman Brac).

Amazona leucocephala Sharpe, Hand-l. B. ii. p. 22 (1900).

Hab. This Parrot is said to be peculiar to Cuba. Whether it has established itself on Cayman Brac or the examples taken there were merely stragglers I am unable to say.

24. Amazona caymanensis. (Grand Cayman Amazon.)

Chrysotis caymanensis Cory, Auk, iii. p. 497 (1886 : Grand Cayman) ; Nicoll, Ibis, 1904, p. 584 (Grand Cayman); Lowe, Ibis, 1909, p. 340 (Grand Cayman).

Amazona caymanensis Sharpe, Hand-l. B. ii. p. 22 (1900).

Hab. Peculiar to Grand Cayman.

25. Ceryle alcyon. (Belted Kingfisher.)

Ceryle alcyon Sharpe, Hand-l. B. ii. p. 50 (1900).

Hab. North America : a winter visitor to the Caymans, fairly common along the fringing mangroves.

✓26. Coccyzus minor. (Mangrove Cuckoo.)

Coccyzus minor Cory, Auk, iii. p. 502 (1886 : Grand Cayman, ? Little Cayman) ; Sharpe, Hand-l. B. ii. p. 163 (1900).

Hab. Resident in the Caymans, West Indies, and Northern and Eastern South America, Southern Florida.

27. Coccyzus minor maynardi. (Maynard's Cuckoo.)

Coccyzus maynardi Nicoll, Ibis, 1904, p. 584 (Grand Cayman).

Coccyzus minor maynardi Ridgw. Man. N. Amer. Birds, p. 274 (1887: Bahamas and Florida Keys); Sharpe, Hand-l. B. ii. p. 163 (1900).

Hab. Bahamas.

Mr. Nicoll has taken a specimen of this Bahaman subspecies on Grand Cayman: probably a visitor.

✓28. Crotophaga ani. (Black Ani.)

Crotophaga ani Linn.; Cory, Auk, iii. p. 502 (1886: Grand Cayman); id. Auk, vi. p. 32 (1889: Cayman Brac); Ridgw. Proc. U.S. Nat. Mus. vol. x. p. 574 (1887: Grand Cayman); Nicoll, Ibis, 1904, p. 584 (Grand Cayman); Sharpe, Hand-l. B. ii. p. 175 (1900).

Hab. South and Central America, West Indies: common and resident in the Caymans.

29. Colaptes gundlachi. (Gundlach's Woodpecker.)

Colaptes gundlachi Cory, Auk, iii. p. 498 (1886: Grand Cayman); Lowe, Ibis, 1909, p. 311 (Grand Cayman); Sharpe, Hand-l. B. ii. p. 201 (1900).

Hab. Peculiar to Grand Cayman, where it is fairly common and very tame.

30. Melanerpes caymanensis. (Cayman Woodpecker.)

Centurus caymanensis Cory, Auk, iii. p. 499 (1886: Grand Cayman); Ridgw. Proc. U.S. Nat. Mus. vol. x. p. 574 (1887: Grand Cayman); Lowe, Ibis, 1909, p. 311 (Grand Cayman).

Melanerpes caymanensis Nicoll, Ibis, 1904, p. 584 (Grand Cayman); Sharpe, Hand-l. B. ii. p. 211 (1900).

Hab. Peculiar to and resident on Grand Cayman.

31. Sphyropicus varius. (Yellow-bellied Woodpecker.)

Sphyropicus varius Sharpe, Hand-l. B. ii. p. 212.

Ad. 27. ii. 05. Little Cayman (coll. P. R. Lowe).

Hab North America: a winter visitor to the Greater Antilles.

The specimen which I obtained on Little Cayman is the only record from the Caymans.

32. ELAINEA MARTINICA CAYMANENSIS. (Cayman Elainea.)

Elainea martinica Cory, Auk, iii. p. 502 (1886: Grand Cayman); Ridgw. Proc. U.S. Nat. Mus. vol. x. p. 574 (1887: Grand Cayman); Cory, Auk, vi. p. 31 (1889: Little Cayman, Cayman Brac); Sclater, Cat. B. Brit. Mus. xiv. 1888, p. 141; Salv. & Godman, Biol. Centr.-Am., Aves, ii. 1888, p. 36; Sharpe, Hand-l. B. iii. p. 123 (1901: Grand Cayman); Nicoll, Ibis, 1904, p. 582 (Grand Cayman); id. ibid. p. 587 (Little Cayman).

Elainea pagana martinica (part.) Allen, Bull. Am. Mus. N. H. ii. 1889, p. 200 (Grand Cayman).

Elænia martinica caymanensis Berlepsch, Proc. Fourth Internat. Orn. Congr. 1907, p. 394 (Grand Cayman).

Elænia martinica riisii Lowe, Ibis, 1909, p. 342.

Hab. Peculiar to Grand Cayman, but the claims of this bird to rank as a subspecies peculiar to the island are, in my opinion, very slender. It is also very difficult to distinguish birds from Little Cayman and Cayman Brac from this supposed new subspecies.

33. ELAINEA MARTINICA COMPLEXA. (Cayman Brac Elainea.)

Elainea martinica Cory, Auk, vi. 1889, p. 31 (Cayman Brac).

Elænia martinica complexa Berlepsch, Proc. Fourth Internat. Orn. Congr. 1907, p. 395 (Cayman Brac).

Hab. Peculiar to Cayman Brac.

I have not been able to appreciate the differences between Cayman Brac birds and those from the Grand and Little Cayman which I have considered elsewhere to be *E. m. riisii.*

34. TOLMARCHUS CAUDIFASCIATUS CAYMANENSIS. (Grand Cayman Petchary.)

Pitangus caudifasciatus Cory, Auk, iii. p. 502 (1886: Grand Cayman); id. Auk, vi. p. 31 (1889: Cayman Brac); id. Cat. West Ind. Birds, 1892, p. 108 (Grand Cayman); Sclater, Cat. Birds Brit. Mus. xiv. 1888, p. 179 part. (Grand Cayman).

Pitangus caymanensis Nicoll, Ibis, 1904, p. 582 (Grand Cayman).

Tolmarchus caymanensis Ridgw. Proc. Biol. Soc. Wash. xviii., Sept. 12, 1905, p. 209; id. Birds North & Midd. Amer. pt. iv. p. 682 (1907: Grand Cayman, Cayman Brac?).

Tolmarchus caudifasciatus caymanensis Lowe, Ibis, 1909, p. 343 (Grand Cayman).

Hab. Peculiar to Grand Cayman and perhaps Cayman Brac.

35. EMPIDONAX MINIMUS. (Least Tyrant.)

Empidonax minimus Nicoll, Bull. B. O. C. 1904, vol. xiv. p. 95; id. Ibis, 1904, p. 582 (Grand Cayman); Sharpe, Hand-l. B. iii. p. 138 (1901).

Hab. Eastern North America: accidental during emigration on Grand Cayman.

✓ 36. MYIARCHUS SAGRÆ. (La Sagra's Tyrant.)

Myiarchus denigratus Cory, Auk, iii. p. 500 (1886: Grand Cayman); Ridgw. Proc. U.S. Nat. Mus. vol. x. p. 574 (1887: Grand Cayman); Nicoll, Ibis, 1904, p. 583 (Grand Cayman); Ridgw. Birds N. & Midd. Amer. pt. iv. 1907, p. 635.

Myiarchus sagræ Lowe, Ibis, 1909, p. 343 (Grand Cayman).

Hab. Cuba. Probably resident and breeding on Grand Cayman: a common bird there.

✓ 37. TYRANNUS DOMINICENSIS. (Gray Kingbird.)

Tyrannus dominicensis Cory, Auk, iii. p. 502 (1886: Grand Cayman); id. Auk, vi. p. 31 (1887: Little Cayman, Cayman Brac); Sharpe, Hand-l. B. iii. p. 149 (1901).

Hab. Greater Antilles, Northern Lesser Antilles, coasts of America, and Bahamas.

38. HIRUNDO ERYTHROGASTER. (American Barn-Swallow.)

Chelidon erythrogaster (Bodd.); Cory, Auk, vi. p. 31 (1889: Cayman Brac).

Hirundo erythrogaster Sharpe, Hand-l. B. iii. p. 193 1901).

Hab. N. America: south to S. America and West Indies in winter.

Probably only a spring and autumn migrant in the Caymans.

39. POLIOPTILA CÆRULEA. (Gray Gnatcatcher.)

Polioptila cærulea Cory, Auk, iii. p. 501 (1886: Grand Cayman); id. Auk, iv. p. 7 (1887: Little Cayman); Sharpe, Hand-l. B. iii. p. 240 (1901)

Hab. A winter visitor to the Caymans and Cuba from the Eastern United States.

40. MIMUS ORPHEUS. (Jamaican Mocking-Bird.)

Mimus orpheus? Cory, Auk, iii. p. 501 (1886: Grand Cayman).

Mimus polyglottos orpheus Cory, Auk, viii. p. 45 (1891: Grand Cayman); Ridgw. Birds N. & Midd. Amer. pt. iv. 1907, p. 231; Lowe, Ibis, 1909, p. 343 (Grand Cayman).

Mimus orpheus Ridgw. Proc. U.S. Nat. Mus. vol. x. p. 572 (1887: Grand Cayman); Nicoll, Ibis, 1904, p. 579 (Grand Cayman).

Hab. This bird is resident in Grand Cayman and probably in Little Cayman and Cayman Brac.

41. GALEOSCOPTES CAROLINENSIS. (Cat-bird.)

Galeoscoptes carolinensis (Linn.); Cory, Auk, vi. p. 31 (1889: Cayman Brac); id. Cat. W.I. Birds, 1892, p. 121 (Grand Cayman); Nicoll, Ibis, 1904, p. 579; Ridgw. Birds N. &. Midd. Amer. pt. iv. 1907, p. 219; Sharpe, Hand-l. B. iv. p. 106 (1903).

I have a specimen in my collection from Grand Cayman.

Hab. Temperate North America in general: a winter visitor to the Caymans.

42. MIMOCICHLA RAVIDA. (Grand Cayman Thrush.)

Mimocichla ravida Cory, Auk, iii. p. 499 (1889: Grand Cayman); id. Cat. W.I. Birds, 1892, pp. 19, 122, 129, 157; id. Birds West Indies, 1889. p. 285 (Grand Cayman); Ridgw.

Birds N. &. Midd. Amer. pt. iv. 1907, p. 87; Lowe, Ibis, 1909, p. 340.

Mimocichla ravida Sharpe, Hand-l. B. iv. p. 116 (1903).

Hab. Peculiar to Grand Cayman.

43. MIMOCICHLA RUBRIPES CORYI. (Cayman Brac Thrush.)

Mimocichla rubripes Cory, Auk, vi. p. 31 (1889: Cayman Brac).

Mimocichla coryi Sharpe, in Seebohm's Monogr. Turdidæ, ii. 1902, p. 212 (Cayman Brac); Sharpe, Hand-l. B. iv. p. 116 (1903).

Mimocichla rubripes coryi Ridgw. Birds N. & Midd. Amer. pt. iv. 1907, p. 86.

Hab. Peculiar to Cayman Brac.

44. VIREOSYLVA CALIDRIS BARBATULA. (Black-whiskered Vireo.)

Vireo calidris barbatulus (Cab.); Cory, Auk, iv. p. 7 (1887: Little Cayman).

Vireo barbatulus Sharpe, Hand-l. B. iv. p. 247 (1903).

Vireosylva calidris barbatulus Ridgw. Birds N. & Midd. Amer. 1904, pt. iii. p. 142.

Hab. Bahamas, Cuba, and Southern Florida: only met with in the Caymans as an occasional straggler.

45. VIREOSYLVA CAYMANENSIS. (Cayman Vireo.)

Vireo caymanensis Cory, Auk, iv. p. 7 (1887: Grand Cayman); id. Auk, vi. p. 31 (1889: Little Cayman, Cayman Brac); Ridgw. Proc. U.S. Nat. Mus. x. p. 573 (1887: Grand Cayman); Nicoll, Ibis, 1904, p. 580 (Grand Cayman); Sharpe, Hand-l. B. iv. p. 247 (1903).

Vireosylva caymanensis Ridgw. Birds N. & Midd. Amer. pt. iii. 1904, p. 136; Lowe, Ibis, 1909, p. 344 (Grand Cayman).

Hab. Peculiar to the Cayman Islands.

46. VIREO CRASSIROSTRIS ALLENI. (Allen's Vireo.)

Vireo alleni Cory, Auk, iii. p. 500 (1886: Grand Cayman); id. Auk, vi. p. 31 (1889: Cayman Brac); Sharpe, Hand-l. B. iv. p. 251 (1903).

Vireo crassirostris alleni Lowe, Ibis, 1909, p. 344 (Grand Cayman).

Hab. Peculiar to the Caymans.

47. AMPELIS CEDRORUM. (American Waxwing.)

Ampelis cedrorum Cory, Auk, vi. p. 31 (1889: Little Cayman); Sharpe, Hand-l. B. iv. p. 259 (1903).

Hab. North America: an occasional visitor to the Caymans in winter.

48. MNIOTILTA VARIA. (Black-and-white Tree-Warbler.)

Mniotilta varia Cory, Auk, iii. p. 501 (1886: Grand Cayman); Sharpe, Hand-l. B. v. p. 96 (1909).

I have shot this bird on Little Cayman Island.

Hab. Eastern North America: a winter visitor to the Caymans.

49. HELMINTHOTHERUS VERMIVORUS. (Pennsylvanian Swamp-Warbler.)

Helmitherus vermivorus (Gmel.); Cory, Auk, vi. p. 31 (1889: Cayman Brac).

Helminthotherus vermivorus Sharpe, Hand-l. B. v. p. 97 (1909).

Hab. Eastern United States: a rare winter visitor to the Caymans.

✓50. PARULA AMERICANA. (Northern Warbler.)

Compsothlypis americana Cory, Auk, vi. p. 31 (1889: Cayman Brac).

Parula americana Sharpe, Hand-l. B. v. p. 100 (1909).

I have taken this bird on Grand Cayman.

Hab. Eastern United States and British Provinces: a winter visitor to the Caymans and throughout the West Indies.

51. DENDRŒCA PETECHIA AURICAPILLA. (Cayman Yellow Warbler.)

Dendroica petechia gundlachi Cory, Auk, iii. p. 501 (1886: Grand Cayman).

Dendroica auricapilla Ridgw. Proc. U.S. Nat. Mus. vol. x. p. 572 (1887); Nicoll, Ibis, 1904, p. 579 (Grand Cayman).

Dendroica petechia auricapilla Ridgw. Birds N. & Midd. Amer. pt. ii. 1902, p. 517 (Grand Cayman).

Dendroica auricapilla Cory, Auk, vi. p. 31 (1889: Little Cayman).

Dendrœca petechia (*auricapilla*?) Lowe, Ibis, 1909, p. 344 (Grand Cayman).

Dendrœca auricapilla Sharpe, Hand-l. B. v. p. 103 (1909).

I have shot this bird on Little Cayman Island.

Hab. Peculiar to Grand Cayman and Little Cayman.

52. Dendrœca tigrina. (Cape May Warbler.)

Dendroica tigrina (Gmel.); Nicoll, Ibis, 1904, p. 579 (Grand Cayman).

Dendrœca tigrina Sharpe, Hand-l. B. v. p. 105 (1909).

Hab. Eastern North America and Canada: apparently a rare winter visitor to the Caymans. This bird is said to be resident and to breed on the high mountains of Jamaica.

53. Dendrœca cærulescens. (Black-throated Blue Warbler.)

Dendroica cærulescens Cory, Auk, vi. p. 31 (1887: Little Cayman).

Dendrœca cærulescens Sharpe, Hand-l. B. v. p. 105 (1909).

Hab. Eastern North America: a rare winter visitor to the Caymans.

54. Dendrœca coronata. (Myrtle Warbler.)

Dendroica coronata Nicoll, Ibis, 1904, p. 579 (Grand Cayman).

Dendrœca coronata Sharpe, Hand-l. B. v. p. 106 (1909).

Hab. North America: a common winter visitor to the Caymans. It is possible that some individuals stay all the year and breed.

55. Dendrœca cærulea. (Cærulean Warbler.)

Dendroica cærulea Wils.; Cory, Auk, iii. p. 501 (1886).

Dendrœca cærulea Sharpe, Hand-l. B. v. p. 107 (1909).

Dendroica rara (Wilson): Ridgw. Birds N. & Midd. Amer. pt. ii. p. 570 (1902).

Hab. Eastern North America: a rare winter visitor to the Caymans.

56. Dendrœca dominica. (Yellow-throated Warbler.)

Dendroica dominica (Linn.); Cory, Auk, iii. p. 501 (1886: Grand Cayman); Cory, Auk, iv. p. 7 (1887: Little Cayman).

Dendrœca dominica Sharpe, Hand-l. B. v. p. 107 (1909).

Hab. Atlantic Coast districts of United States: not a common winter visitor to the Caymans. This bird or a subspecies of it (*D. d. albilora*) is said to breed occasionally in Jamaica.

I have a specimen in my collection from Little Cayman.

57. Dendrœca discolor. (Prairie Warbler.)

Dendroica discolor (Vieill.); Cory, Auk, vi. p. 31 (1889: Little Cayman, Cayman Brac).

Dendrœca discolor Sharpe, Hand-l. B. v. p. 110 (1909).

Hab. Eastern United States. The Prairie Warbler is occasionally met with in the Caymans as a winter visitor alongside of its resident colleague *D. vitellina.* I have one or two examples from Grand Cayman.

58. Dendrœca vitellina. (Vitelline Warbler.)

Dendroica vitellina Cory, Auk, iii. p. 497 (1886: Grand Cayman); id. Auk, vi. p. 31 (1889: Little Cayman, Cayman Brac); Ridgw. Proc. U.S. Nat. Mus. vol. x. p. 574 (1887: Grand Cayman); id. Birds N. & Midd. Amer. pt. ii. p. 610 (1902: Grand Cayman); Nicoll, Ibis, 1904, p. 580 (Grand Cayman).

Dendrœca vitellina Lowe, Ibis, 1909, pp. 337 & 345 (Grand Cayman); Sharpe, Hand-l. B. v. p. 110 (1909).

Hab. Peculiar to Grand Cayman and Swan Island.

This resident species is much more common on Swan Island than it is on Grand Cayman.

59. DENDRŒCA CRAWFORDI. (Lord Crawford's Wood-Warbler.)

Dendroica crawfordi Nicoll, Bull. B. O. C. vol. xiv. p. 95 (June 15, 1904); id. Ibis, 1904, p. 586 (Little Cayman).

Dendrœca crawfordi Lowe, Ibis, 1909, p. 337 (Little Cayman); Sharpe, Hand-l. B. v. p. 110 (1909).

Hab. Peculiar to Little Cayman.

60. DENDRŒCA PALMARUM. (Palm-Warbler.)

Dendroica palmarum (Gmel.); Cory, Auk, vi. p. 31 (1889: Little Cayman, Cayman Brac); Nicoll, Ibis, 1904, p. 586 (Little Cayman).

Dendrœca palmarum Sharpe, Hand-l. B. v. p. 110 (1909).

Hab. Eastern North America: a very abundant winter visitor to the Cayman Islands.

I have examples of this species in my collection from Grand Cayman and Little Cayman.

61. SIURUS AURICAPILLUS. (Gold-crowned Water-Thrush.)

Seiurus auricapillus (Linn.); Cory, Auk, vi. p. 31 (1889: Cayman Brac).

Siurus auricapillus Sharpe, Hand-l. B. v. p. 112 (1909).

Hab. Eastern North America: a fairly common winter visitor to the Caymans.

I have taken this bird on Little Cayman Island.

62. SIURUS MOTACILLA. (Louisiana Water-Thrush.)

Seiurus motacilla (Vieill.); Cory, Auk, iii. p. 501 (1886: Grand Cayman).

Siurus motacilla Sharpe, Hand-l. B. v. p. 112 (1909).

Hab. Eastern United States: an occasional winter visitor to the Caymans.

63. SIURUS NOVEBORACENSIS. (New York Water-Thrush.)

Seiurus noveboracensis Cory, Auk, iv. p. 7 (1887: Grand Cayman, in August); Nicoll, Ibis, 1904, p. 581 (Grand Cayman).

Siurus noveboracensis Sharpe, Hand-l. B. v. p. 112 (1909).

Hab. N. America. A winter visitor to the Caymans. Mr. Cory records one (*loc. cit.*) as having been taken in August.

64. Geothlypis trichas. (Maryland Yellowthroat.)

Geothlypis trichas Cory, Auk, vi. p. 31 (1889: Little Cayman); Sharpe, Hand-l. B. v. p. 113 (1909).

Hab. Atlantic Coast districts of the United States: a winter visitor to the Caymans. I have also taken the Yellowthroat on Little Cayman, but not having enough specimens I am unable to say whether it is the Northern form of Yellowthroat (*G. trichas brachydactyla*). I have taken the short-winged subspecies on Swan Island.

65. Setophaga ruticilla. (American Redstart.)

Setophaga ruticilla (Linn.); Cory, Auk, vi. p. 31 (1889: Cayman Brac); Sharpe, Hand-l. B. v. p. 120 (1909).

Hab. Temperate North America: a winter visitor to the Caymans.

66. Melopyrrha taylori. (Taylor's Finch.)

Melopyrrha nigra Cory, Auk, iii. p. 501 (1886: Grand Cayman).

Melopyrrha taylori Hartert, Nov. Zool. vol. iii. p. 257 (1896: Grand Cayman): Ridgw. Birds North & Midd. Amer. pt. i. p. 563 (1901: Grand Cayman); Nicoll, Ibis, 1904, p. 582 (Grand Cayman); Lowe, Ibis, 1909, p. 345 (Grand Cayman); Sharpe, Hand-l. B. v. p. 215 (1909: Grand Cayman).

Hab. Peculiar to Grand Cayman, where apparently it is by no means common and also far from conspicuous.

✓67. Euethia olivacea. (Yellow-faced Grass-Quit.)

Euetheia olivacea (Gmel.); Cory, Auk, iii. p. 502 (1886: Grand Cayman): id. Auk, vi. p. 31 (1889: Little Cayman, Cayman Brac); Ridgw. Proc. U.S. Nat. Mus. vol. x. p. 574 (1887: Grand Cayman); id. Birds North & Midd. Amer. pt. i. p. 530 (1901: Grand Cayman); Nicoll, Ibis, 1904, p. 581 (Grand Cayman).

Euetheia lepida Cory, Cat. W.I. Birds, 1892, pp. 16, 113, 151, part. (Grand Cayman, Little Cayman).

Euethia olivacea Sharpe, Hand-l. B. v. p. 215 (1909).

Hab. Fairly common and resident in Grand Cayman and Little Cayman: also found in Cuba, Jamaica, and Haiti.

68. EUETHIA OLIVACEA CORYI. (Cory's Grass-Quit.)

Euetheia olivacea (nec *Emberiza olivacea* Linn.) Cory, Auk, vi. 1889, p. 31 (Cayman Brac).

Euetheia lepida (nec *Fringilla lepida* Linn.) Cory, Cat. W.I. Birds, 1892, pp. 16, 115, 151, part. (Cayman Brac).

Euetheia coryi Ridgw. Auk, xv., Oct. 1898, p. 322 (Cayman Brac; coll. Field Columb. Mus.).

Euetheia olivacea coryi Ridgway, Birds North & Midd. Amer. pt. i. p. 532 (1901).

Euethia coryi Sharpe, Hand-l. B. v. p. 215 (1909).

Hab. Peculiar to Cayman Brac.

69. PASSERCULUS SANDWICHENSIS. (Savannah Sparrow.)

Passerculus sandwichensis Nicoll, Ibis, 1904, p. 582 (Grand Cayman); Sharpe, Hand-l. B. v. p. 290 (1909).

Hab. Eastern North America, migrating south in winter to Cuba, the Bahamas, and the Gulf Coast: a winter visitor to the Caymans.

70. SPINDALIS SALVINI. (Salvin's Spindalis.)

Spindalis salvini Cory, Auk, iii. p. 499 (1886: Grand Cayman); id. Birds W.I. 1889, p. 289; id. Cat. W.I. Birds, 1892, pp. 16, 114, 129, 152; Ridgw. Birds North & Midd. Amer. pt. ii. p. 74 (1902: Grand Cayman); Lowe, Ibis, 1909, p. 346 (Grand Cayman); Sharpe, Hand-l. B. v. p. 381 (1909).

Hab. Peculiar to Grand Cayman.

71. CŒREBA SHARPII. (Sharpe's Banana-Quit.)

Certhiola sharpei Cory, Auk, iii. p. 497 (1886: Grand Cayman); id. Auk, vi. p. 31 (1889: Little Cayman); Ridgw. Proc. U.S. Nat. Mus. vol. x. p. 574 (1887: Grand Cayman); Nicoll, Ibis, 1904, p. 580 (Grand Cayman and Little Cayman).

Cœreba sharpei Ridgw. Birds N. & Midd. Amer. ii. p. 404

(1902: Grand and Little Cayman, and Cayman Brac); Lowe, Ibis, 1909, p. 345 (Grand and Little Cayman); Sharpe, Hand-l. B. v. p. 342 (1909).

Hab. Peculiar to the Caymans.

72. DOLICHONYX ORYZIVORUS. (Rice-bird.)

Dolichonyx oryzivorus (Linn.); Cory, Auk, vi. p. 31 (1889: Little Cayman); Sharpe, Hand-l. B. v. p. 489 (1909).

Hab. An occasional visitor on passage to and from the north.

73. ICTERUS BAIRDI. (Baird's Banana-bird.)

Icterus bairdi Cory, Auk, iii. p. 500 (1886: Grand Cayman); id. Birds W.I. 1889, p. 291; id. Cat. W.I. Birds, 1892, pp. 15, 110, 129, 146; Ridgw. Birds N. & Midd. Amer. pt. ii. p. 304 (1902: Grand Cayman); Lowe, Ibis, 1909, p. 340; Sharpe, Hand-l. B. v. p. 505 (1909).

Hab. Peculiar to Grand Cayman: not at all common.

74. HOLOQUISCALUS CAYMANENSIS. (Grand Cayman Grackle.)

Quiscalus caymanensis Cory, Auk, iii. p. 499 (1886: Grand Cayman); id. Birds W.I. 1889, p. 291; id. Cat. W.I. Birds 1892, pp. 15, 111, 129, 147; Ridgw. Proc. U.S. Nat. Mus. vol. x. p. 574 (Grand Cayman); Nicoll, Ibis, 1904, p. 581 (Grand Cayman).

Holoquiscalus caymanensis Ridgw. Proc. Wash. Ac. Sci. iii., Apr. 15, 1901, p. 151; id. Birds N. & Midd. Amer. pt. ii. 1902, p. 229; Lowe, Ibis, 1909, p. 347 (Grand Cayman); Sharpe, Hand-l. B. v. p. 510 (1909).

Hab. Peculiar to Grand Cayman.

75. HOLOQUISCALUS GUNDLACHI. (Gundlach's Grackle.)

Quiscalus gundlachi Cass.; Cory, Auk, vi. p. 31 (1889: Cayman Brac); id. Cat. W.I. Birds, 1892, pp. 15, 129, 147 (Little Cayman, Cayman Brac); Nicoll, Ibis, 1904, p. 587 (Little Cayman).

Holoquiscalus gundlachi Ridgw. Birds North & Midd. Amer. pt. ii. p. 226 (1902: Little Cayman and Cayman Brac); Sharpe, Hand-l. B. v. p. 509 (1909).

Hab. Peculiar to Cuba, Little Cayman, and Cayman Brac.

V.—*Notices of recent Ornithological Publications.*

1. *'The Avicultural Magazine.'*

[The Avicultural Magazine. Third Series. Vol. i. Nos. 10–12 (August–October, 1910).]

The most interesting paper to the readers of 'The Ibis' in these three numbers will probably be that on the Cock of the Rock (col. pl.) by Mr. W. Frost, who narrates the bird's habits as observed in Guiana, and his experiences in netting it. Mr. Seth-Smith describes the successful termination of his visit to Australia on behalf of the Zoological Society, with details of a couple of short trips in Tasmania; Mr. Bonhote concludes his notes on the age of birds in confinement, mentioning several that had lived with him for over ten years; while Mr. Finn once more furnishes interesting "Stray Notes" on several Indian species. Besides these, Mr. C. B. Smith has much information to give us on the Sand-Grouse (*Pterocles fasciatus* and *P. exustus*), as kept in his aviaries, and on *Lagopus rupestris*, which has laid eggs there; Mr. R. Phillips records a further case of successful breeding of the Pied Rock-Thrush (*Monticola saxatilis*); and Mr. Goodchild finishes his account of his "ornithological rambles."

Further articles on individual species are written by Messrs. E. J. Brook (a pet Cassowary), W. E. Teschemaker (nesting of *Serinus sulphuratus*), R. B. Woosnam (*Scops erlangeri*, pl., and *Glaucidium perlatum*, pl.), and J. L. Bonhote (*Spindalis pretrei*, col. pl.).

The Bird-notes from the Zoological Gardens are of more than ordinary interest, as, besides notices of the breeding of *Microtribonyx ventralis* and other species, we are presented with a plate of the Hammer-head (*Scopus umbretta*) and its nest. This nest many of us have seen in the Gardens, and we are now told that the young were successfully hatched.

2. *Benham on the Moa of Stewart Island.*

[The Discovery of Moa-Remains on Stewart Island. By Prof. W. B. Benham, F.R.S. Trans. New Zealand Inst. 1909.]

The discovery of remains of the Moa in Stewart Island is interesting, since positive evidence of its former existence there had not been recorded. Mr. W. F. Murdoch, of Half-Moon Bay, brought the discovery to the notice of Prof. Benham, and allowed him to examine the specimens. They consist of a femur, tibio-tarsus, tarso-metatarsus, back of a cranium, and two terminal phalanges, and belong to *Euryapteryx* (*Emeus*) *crassa*, a species from five to six feet in height, fairly common on the South Island. Remains of two specimens were found, one being much smaller than the other.

3. *Bucknill's List of the Birds of Cyprus.*

[Cyprus Natural History Society, Bulletin No. 11. A List of the Birds of Cyprus, compiled for the Cyprus Natural History Society by John A. S. Bucknill. 8vo, pp. 27. Nicosia, 1910.]

After a few prefatory remarks on the principal investigators of the Ornithology of Cyprus and their publications, Mr. Bucknill gives a list of the 290 species of birds as yet known to occur there, taken from his articles "On the Ornithology of Cyprus," published in this Journal in 1909 and 1910[*]. A few notes are added to the name of each bird.

4. *Butler on Foreign Birds for Aviaries.*

[Foreign Birds for Cage and Aviary. By Arthur G. Butler, Ph.D. &c. Part II. The Larger Foreign Birds. London, 1910. 305 pp., small 4to.]

The second part of Mr. Butler's work finishes his account of the cage-birds to be met with in the European markets. In the first part the smaller forms were described, in the second we now find the larger, the two parts together containing accounts of about a thousand species.

In the twenty chapters of the present volume the author has described such members of the groups of Starlings, Bower-birds, Paradise-birds, Manucodes, Larks, Pittas, Tyrants, Chatterers, Oven-birds, Woodpeckers, Colies, Kingfishers, Motmots, Bee-eaters, Toucans, Barbets, Touracous,

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[*] See 'Ibis,' 1909, p. 569, and 1910, pp. 1 & 385.

Parrots, and Doves as have been received alive in Europe. Of all these birds, after the scientific and English name, a short description is given, with an abstract of the principal facts known about them. About 80 illustrations are included in the text, some of which are of special interest.

We must say that all our friends the Aviculturists ought to be exceedingly grateful to Mr. Butler for the pains he has taken in the compilation of this book, which will save them enormous trouble. To ascertain the name of a living bird is no easy matter nowadays. All sorts of books and periodicals, many of which may not be of easy access, must be searched through, and perhaps in vain! We do not say that this work will enable us to solve the riddles at once, but it will be a considerable help. We cordially commend Mr. Butler's book on cage-birds to the notice of all those who keep our feathered friends in captivity and wish to know their scientific names.

5. *The Check-list of North-American Birds.*

[Check-list of North-American Birds, prepared by a Committee of the American Ornithologists' Union. Third edition (revised). New York, 1910.]

The long-expected third edition of the 'Check-list of North-American Birds' was issued in August last, but too late to be noticed in our last number.

The geographical boundaries of the List remain as before—that is, "the Continent of North America north of the United States and Mexican Boundary, Greenland, and the peninsula of Lower California, with the islands naturally belonging thereto."

The species are not numbered in the present edition, but are stated to be about the same in number as those in the second edition (*i. e.* 768), besides which there are a large number of subspecies. These are indicated by letters (*a*, *b*, *c*, &c.). *Melospiza* has 20 subspecies and *Otocorys* 14. In the main portion of the List the species and subspecies are taken in systematic order from the lowest to the highest, and after the Latin and English names a reference to the authority for the former is added. The range of each form is carefully indicated, but no sort of description is given.

The scientific names of the species and subspecies have all been settled according to the "Revised Code of Nomenclature," published by the Union in 1908. It would be impossible, of course, even if it were desirable, to criticise these names on the present occasion. But the key to them is the terrible word "Priority." Now Priority is, no doubt, a very important point. But the claims of Grammar and Common-sense should be also considered, and, in some cases, that does not appear to have been done. For instance, the Red-wing is called "*Turdus musicus*," although the evidence that Linnæus ever intended to give it that name is very slight, and universal usage is against it. Again the "Varied Thrush" of California is named "*Ixoreus*," although it has been most clearly shown that Bonaparte based that generic name on a Tyrant-bird*, *Tænioptera rufiventris*. But these are very slight defects in a good piece of work, which carries the signatures of Allen, Merriam, and Ridgway, and will, no doubt, receive the general approval of American Ornithologists.

6. *Check-list of North-American Birds abridged.*

[Abridged Check-list of North-American Birds. New York, 1910; pp. 77.]

This list contains the scientific and English names of all the North-American species and subspecies of Birds recognised in the new (third) edition of the 'Check-list.' The species are numbered from 1 to 768, the subspecies are designated by letters (*a*, *b*, *c*, &c.) attached to the number of the species.

This little book will be very useful for marking off species represented in museums and other collections. It is not much larger than an ordinary pocket-book, and, therefore, easily portable.

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* *Cf.* 'Ibis,' 1908, p. 190, and 1903, p. 142.

7. *Dewar on Indian Birds.*

[Indian Birds, being a Key to the Common Birds of the Plains of India. By Douglas Dewar. 1 vol., demy 8vo, 228 pp. John Lane: London and New York.]

The object of this book is, as the author informs us, "to enable people interested in our Indian birds to identify at sight those they are likely to meet with in their compounds and during their excursions into the jungle." This is a most praiseworthy object, and we have no doubt that Mr. Dewar's little volume will be of material assistance in meeting the want of such a guide, though it is drawn up in a somewhat novel manner. The method adopted is to classify the "birds of the plains" under several categories "according to their habits and outward appearances." Every bird has a colour, and presents some other peculiarity (such as a crest, a short tail, long legs, or a peculiar voice) which enables it to be divided from its fellows and arranged in a certain group, specified by the author. Thus if the observer sees a white bird with a crested head and a long tail and examines Mr. Dewar's lists, he will find that No. 47 is the only species that combines these three peculiarities. On turning to the "Descriptive List," which forms the second half of the work, "No. 47" will be found to be the Indian Paradise Flycatcher (*Terpsiphone paradisi*). This may be not a very scientific way for the young Ornithologist to learn the names of his birds, but it is a simple one, and may be of some use to a beginner. Mr. Dewar thinks that it will enable any person to identify in a few weeks nearly all the common birds of his Station.

8. '*The Emu.*'

[The Emu. A Quarterly Magazine to popularize the Study and Protection of Native Birds. Vol. x. pts. 1, 2.]

In the first of these parts we have an important paper by a New Zealander, Mr. T. Iredale, on the Birds of the Kermadec Islands, which lie between that country and the Friendly Islands to the northward. The writer remained on Raoul or Sunday Island, the chief of the group, from

December 1907 till November 1908, and therefore was able to gain a much better insight into its Ornithology than John MacGillivray during the survey made in 1854, or Cheeseman at its annexation to New Zealand in 1887. Many and various are the points of interest, but we have only space here to refer specially to the Petrels of the genera *Puffinus* and *Œstrelata*, the synonymy and breeding-habits of which are discussed at full length. No one interested in the group can afford to ignore this article. The Tui was found to be abundant; while the European Song-Thrush, Blackbird, and Starling have reached Sunday Island and firmly established themselves there. Plates are given of the Crater Lake, the downy young of *Sula cyanops*, *Phaëthon erubescens*, *Œstrelata neglecta*, and the nesting-places of the two latter.

Dr. W. MacGillivray writes at length of an oologist's holiday on the Barrier Range near Broken Hill, N.S.W., where a great number of birds' nests and eggs were examined, and continues his paper in the second part of the volume. Mr. G. M. Mathews publishes a list of seventeen additions to his 'Hand-list of the Birds of Australasia,' and in the October number continues his list of the Birds of North-West Australia, with notes on the colour of the bill, eyes, and so forth, and on the contents of the stomachs.

In the two numbers we find a description by Mr. J. W. Mellor of a new form of Crow-Shrike, *Strepera plumbea*, from Eyre Peninsula, S.A., its nest and eggs; and also of the hitherto unknown nests and eggs of *Pœcilodryas pulverulentus* and *Malurus dulcis* from Napier Broome Bay by Mr. H. L. White; while Mr. Mathews is again to the fore with a description of the type-specimen of *Rhipidura phasianus* De Vis, accompanied by a coloured plate.

Distributional papers are well represented by those of Mr. A. F. Crossman (cont.), C. Gubanyi, and A. P. Ingle, on the Broome district, N.W.A., Sandy Creek, Riverina, N.S.W., and Merriman's Creek, South Gippsland, respectively.

In the October number Mr. S. W. Jackson furnishes a most interesting series of additional notes on the habits of the Tooth-billed Bower-bird (*Scenopœetes dentirostris*).

Mr. L. G. Chandler writes on the Pardalotes, and H. S. Dove on *Petrœca vittata.* Similar articles in the earlier number deal with the Victorian Sericornes (Mr. A. G. Campbell), *Ptilotis cassidix* (Messrs. F. E. Wilson and L. G. Chandler), *Catarrhactes chrysocome* in captivity (Mr. E. B. Nicholls), and the Regent Bird (Mr. P. H. Gilbert).

In conclusion, we may refer to shorter articles or notes—on the "Destruction of Birds" by Mr. J. W. Mellor, on subfossil Bird-remains from King Island, Bass Straits (including those of *Dromæus minor*), from Mem. Nat. Mus. Melbourne, on the taming of wild Blue-bellied Lorikeets by a lady (pl.), and the insertion of a portrait of our lost Ornithologist, Dr. Bowdler Sharpe, in the "Notes and Notices."

9. *Finn on Asiatic Waterfowl.*

[The Waterfowl of India and Asia. By F. Finn. Calcutta, 1909. 121 pp.]

This is a revised edition of the author's work 'How to know the Indian Ducks,' and furnishes a useful summary of all that is known of the various species, brought up to date, with brief notices and descriptions of the non-Indian forms. It is apparently meant in the first place for Anglo-Indians, and keys to the species are formed for their benefit. Heads of the Ducks likely to be met with by local sportsmen are given as aids to identification. A first Appendix is devoted to a "Synoptical Table of the Indian Anatidæ," a second to a "Table of colours of full-plumaged males," and a third to "Aviaries for Ducks."

10. *Flower's Report on the Zoological Gardens of Giza.*

[Zoological Gardens, Giza, near Cairo. Report for the Year 1909 (Eleventh Annual Report). By the Director. Cairo, 1910.*]

The Report on the Zoological Garden at Giza, near Cairo, gives us a very favorable account of its progress in every department during the year 1909. Of course, the more prominent objects in all such institutions are the Mammals; but Birds, as will be seen by the Report, are by no means neglected at Giza, and allusions to them will be found in

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[*] *Cf.* Report for 1908, 'Ibis,' 1909, p. 701.

nearly every page of the Report. At the stock-taking, in November, 797 specimens of birds were counted, referable to 207 species, amongst which the Pigeons and Parrots were most numerous. The new buildings erected in 1909 were a new Vulture-cage and a new Crane-paddock. Amongst the birds new to the collection were two Egyptian Lark-headed Cuckoos (*Centropus ægyptius*) from the Fayum. Twenty species of birds bred in the Gardens in 1909, and 16 others laid eggs but did not succeed in hatching them.

The collection of Egyptian bird-skins, formed mainly by Mr. Nicoll for the purpose of correct identification, contained 1180 specimens on the 31st of December, 1909, as compared with 675 at the corresponding date in 1908.

Capt. Flower has prepared a new edition of his 'List of all the Zoological Gardens in the World,' arranged alphabetically, which is a very useful publication to all those who are interested in this subject, and contains the names of the Directors of the various Gardens. Over 100 of such institutions are registered in the List.

11. *Fulton on the Bronze Cuckoo of New Zealand.*

[The "Pipiaharauroa" or Bronze Cuckoo (*Chalcococcyx lucidus*) of New Zealand, and an Account of its Habits. By Robert Fulton, M.D. Trans. New Zealand Inst. 1909, p. 392.]

This Cuckoo is a summer visitor to New Zealand, arriving at the end of September and, like many Cuckoos, deposits its eggs in other birds' nests. It departs from New Zealand in February, and is said to go to "New Guinea," but more evidence on this point is required. Mr. Fulton gives a long account of its "wicked ways," and concludes with a list of previous authorities on the subject, 48 in number.

12. *Gladstone on the Birds of Dumfriesshire.*

[The Birds of Dumfriesshire. A Contribution to the Fauna of the Solway Area. By Hugh S. Gladstone. London, 1910: Witherby & Co. 8vo, pp. i–xcix, 1–482.]

The Solway area, which contains not only Dumfriesshire, Kirkcudbrightshire, and Wigtownshire, but also parts of Ayrshire, Roxburghshire, and Northumberland, lacks a historian of its whole avifauna, though Sir William Jardine lived in it of old. We therefore cordially welcome this work on one of its counties by Mr. Gladstone, the more so as we are sorry to hear that Mr. R. Service may be unable to publish his intended volume on the entire district. The author has taken great trouble to make the book as perfect an account of the birds as possible, and has spared no pains in examining the literature of the subject and investigating doubtful records. To a great extent it may be considered an account of the birds of the Solway, as constant references are made to the distribution of species in the area, and a whole chapter is devoted to migration. Bird-protection, local names, and the use of flight-nets have also separate sections allotted to them, while the physical features and climate are discussed at very considerable length. In short, we have here an admirable piece of work, almost too long for a single volume, as will be seen from the number of pages. Perhaps the Bibliography might have been abbreviated, but even this will appeal to the local men of science, while the account of former writers on the Ornithology of the county is of interest to us all. Some of the most valuable sections are those on such birds as the Hawfinch, Great Spotted Woodpecker, Stock-Dove, and Tufted Duck, which have increased conspicuously in Scotland of late years, on the former breeding of the Bittern and Ptarmigan in the Solway, and that on the occurrence of such rarities as the Blue-winged Teal and Lesser White-fronted Goose. Two hundred and eighteen species are included in the list, while thirty-nine others are doubtfully recorded. No student of local faunas can afford to be without this book, which may be compared in style of treatment with those of Dr. Ticehurst on Kentish Birds and of Messrs. Coward and Forrest on the Vertebrate Fauna of Cheshire and North Wales respectively.

13. *Grant's List of British Birds.*

[A List of British Birds, showing at a Glance the exact Status of each Species. Revised to August, 1910. By W. R. Ogilvie-Grant. Witherby & Co., 1910. 8vo, 69 pp.]

Having been frequently asked during the last few years for a complete list of British Birds, printed in such a form that it could be cut up and used for labelling specimens, Mr. Ogilvie-Grant has prepared the present catalogue, which is specially adapted for that purpose. So many additions to the British Avifauna have been made since Howard Saunders's 'List of British Birds' was revised in 1907 that a new list was much wanted.

The new List contains the names of 442 species, considered to be entitled to a place in the British Avifauna. Besides these, Mr. Ogilvie-Grant gives the names of others, of which "the history is doubtful" or "which have, perhaps, been artificially introduced," but these names are not numbered and are placed in square brackets. The 442 numbered species are divided into five categories:—(1) Residents; (2) Regular Summer Visitors that Breed; (3) Regular Autumn, Winter, or Spring Visitors that do not Breed; (4) Occasional Visitors that in former days used to Breed; (5) Occasional Visitors that have never been known to Breed. The exact "status" of each bird, according to the author's view, is clearly shown in a series of columns following its name, so that it is very readily ascertainable.

Another good feature in this List is that the names of the numerous species recently added to the British Avifauna are all carefully inserted in their places, and references are given to the works in which their occurrences in this country have been recorded. This will make the List very useful to the collector, who, up to the present time, has been obliged to hunt up such records in a dozen different periodicals. But, on the other hand, the classification adopted, which appears to be nearly that of the Bird-Gallery in the British Museum, beginning with the lower forms and ending with the Passeres, will, in our opinion, be far from popular. The author quotes Saunders's 'Manual' throughout his List, and refers to Saunders's dicta continually. Why, then, did he not use Saunders's classification, which is nearly the same as that of the 'Ibis List,' and is familiar to all British Ornithologists? We are also of opinion that the addition of the authority to the scientific name of the species is quite unnecessary—at any rate, in the case of "British Birds." Linnæus proposed to have only *two* names for each species. If the authority is always to be added that will make *three*. But the "authority" is not an essential part of the name and is in many cases quite a useless appendage to it.

14. *Griffith on Additions to the Booth Collection of Birds.*

[Catalogue of Cases of Birds in the Dyke Road Museum, Brighton, being a Supplement to the Third Edition. By A. F. Griffith. Brighton, 1909. 38 pp.]

On more than one occasion * we have called attention to the excellent collection of mounted birds contained in the Museum on the Dyke Road, Brighton. Founded by the late Mr. Booth, mainly on specimens obtained by his own personal exertions in various parts of the British Islands, it was taken up by the Civic Authorities after Mr. Booth's decease, and by other liberal supporters of good works, while it has now become one of the recognised sights of Brighton. It is certainly well worthy of a visit from everyone interested in birds.

The Catalogue of the collection is just now out of print, but Mr. A. F. Griffith, who is chief adviser of the Committee of Management as regards acquisitions, has lately prepared a Supplement to the Third Edition, which contains a list of the specimens, some 70 in number, recently added to the mounted series, with particulars as to their localities and notes on the mode in which they were obtained. They embrace many interesting forms—such as the Black-headed Bunting, American Bittern, Blue-breast, Black-throated Thrush, and White-winged Lark. All the specimens are excellently mounted.

15. *Gunning and Haagner on the Birds of South Africa.*

[A Check-List of the Birds of South Africa. By Dr. J. W. B. Gunning and Alwin Haagner. Pretoria, 1910. Pp. 84.]

"Check-lists" and "Hand-lists" are much in fashion nowadays, and are useful in their way, but they should not be confined to a mere list of names without localities. Nor is it necessary to have two rival Lists of the birds of the same country based on different authorities.

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* *Cf.* 'Ibis,' 1907, p. 639, and 1909, p. 388.

After finishing his four volumes of "Birds" in the 'Fauna of South Africa,' Mr. W. L. Sclater prepared a Check-list of the species, including additions made during the progress of the work, and published it in the 'Annals of the South African Museum.' It enumerated about 1848 species as then ascertained to belong to the South African Avifauna, and naturally followed, as closely as possible, the order and arrangement used in the four volumes of the 'Fauna.' The authors of the present work now give us a new "Check-list" with exactly the same title, and publish it as a "Supplement" to the 'Annals of the Transvaal Museum.' Had they followed the classification and arrangement of the previous Check-list, making only the necessary additions and corrections, we should not have found fault with them. But, so far from doing this, they have "gone to Berlin" and taken their arrangement and nomenclature from Dr. Reichenow's 'Vögel Afrikas.' This is an excellent work, no doubt, but it is founded on entirely different principles from Mr. Sclater's book, and begins at the bottom of the Class of Birds instead of commencing with the highest. Thus the ornithologist in South Africa will be confronted with two rival systems, and, in many cases, will be puzzled how to choose between them.

The Pretorian Check-list contains the names of 920 species, and gives also the names in Dutch and English, together with references to the works of W. L. Sclater and Reichenow. At the end is placed a series of notes containing recent information on about 100 species.

16. *Lönnberg on Birds from Transbaicalia and Mongolia.*

[Notes on Birds collected by Mr. Otto Bamberg in Southern Transbaikalia and Northern Mongolia. By Einar Lönnberg. Arkiv f. Zool. Band v. No. 9 (1909).]

Dr. Lönnberg describes the collection of birds made by Mr. Otto Bamberg, of Weimar, during an expedition to

Northern Mongolia and the northern parts of Transbaicalia. He first gives a few particulars about the thirty localities in which Mr. Bamberg collected and illustrates them by some photographic pictures, beginning at Kiachta and ending at Urga. He also mentions the most characteristic birds of each station. The specimens are referred to about 75 species, of which four are provided with new names :—*Garrulus glandarius bambergi*, *Saxicola œnanthe argentea*, *Dendrocopus major mongolus*, and *Upupa epops saturata*. We observe that our Common Grey Flycatcher is here called "*Muscicapa ficedula neumanni*"! We may remark that a better name for it is *Muscicapa grisola*, by which it has been known for the past one hundred and fifty years. It is probable, we admit, that the *Muscicapa ficedula* of Linneus's tenth edition was based on a Grey Flycatcher, but it is by no means certain. Dr. Hartert is doubtful on the subject (Vög. pal. Faun. i. p. 475).

Mr. Bamberg secured a male specimen of *Micropalama taczanowskia* in full breeding plumage at Bura in May, 1908 (*cf.* also 'Ibis,' 1909, p. 418, pl. vii.).

17. *MacGillivray on the Life of William MacGillivray.*

[Life of William MacGillivray. By William MacGillivray, W.S., with a Scientific Appreciation by J. Arthur Thomson. London: John Murray, 1910. 8vo, pp. i–xiii, 1–222.]

On the occasion of the erection of a monument to William MacGillivray at Edinburgh and a memorial tablet at Aberdeen, the author of this work prepared a short sketch of his relation's life for private circulation. This has now been expanded into the present volume, as no detailed biography of the great ornithologist has been written since his death. At this distance of time we are apt to forget the services that MacGillivray rendered to science, and especially to our branch of it, not only by his careful and accurate work and the instruction which he bestowed on his students, but by his researches into the true methods of classification. He was the first writer in Britain to point out the necessity for taking into account the internal as well as the external organs of Birds, and may be considered the originator of all modern systems of taxonomy. His 'History of British Birds' was based on this principle, while his investigations were carried on during the whole of his earlier life at Edinburgh, where he was successively Assistant Keeper of the Natural History Museum and Conservator of the Museum of the College of Surgeons, as well as at Aberdeen after his election to the post of Professor of Natural History at Marischal College. MacGillivray was a botanist and geologist, as well as a zoologist—a combination not so rare in those days as now—and wrote Manuals on all three subjects; he is also well-known to have collaborated with Audubon in his 'Ornithological Biographies,' and to have supplied most of the technical matter. Ornithology, however, was his favourite subject in manhood, and it was through this that his great friendship with Audubon was formed. MacGillivray's personality was remarkable, as will be seen from the details of his life; his early struggles, his laborious journeys for scientific purposes in Scotland, and still more his arduous walk from Aberdeen to London with only £10 in his pocket, shew a determination and energy beyond his years, while he seems to have been of a lovable nature and to have been highly esteemed by those associated with him.

Prof. Thomson writes an appreciative notice of his life in the penultimate chapter, while the last is devoted to extracts from the various works that he published.

18. *Madarász on new East-African Birds.*

[Neue Vögel aus Ostafrika. Von Dr. Julius v. Madarász. Archivum Zoologicum, vol. i. no. 11, p. 175 (1910).]

In this new zoological journal Dr. J. v. Madarász gives an account of some birds obtained by Herr Koloman Kittenberger in German East Africa, in the district of Ngare-Dowash, on the southern side of Lake Victoria. The new species described are named *Phyllastrephus dowashanus*, *Crateropus reichenowi*, *Sylviella distinguenda*, *Anthoscopus kolomanni*, and *Apus kittenbergi*. The pretty nest of the *Anthoscopus* is nicely figured. Some new eggs from the same collector are also described. Two eggs of *Turacus chalcolophus* were taken from a nest on an Acacia, built like that of a Wood-Pigeon and about twelve feet from the ground. They are of a dull white, without lustre.

19. *Martorelli on Variation in the Ring-Ousel.*

[Le Variazioni della *Merula torquata* (Naum.). By Prof. Giacinto Martorelli. Atti Soc. Ital. Sci. Nat. xlviii. (1910), 27 pp., 1 pl. (separately printed).]

The author does not consider that *Merula alpestris* and *M. orientalis* are valid species, while he has taken great trouble to examine into the question of the variations of the Ring-Ousel. He has watched the living birds, and has procured examples at all ages and in all states of plumage, chiefly from Italy. The variation, which appears to be considerable, is further shown by a plate depicting the separate feathers.

20. *Mathews on the Birds of Australia.*

[The Birds of Australia. By Gregory M. Mathews. With hand-coloured plates. Vol. i. pt. i. London: November, 1910. Witherby & Co.]

We have now before us the first part of this new work on Australian Birds, which is the more welcome as that of Gould has been long out of date, and we shall now be able to form a clear opinion on the validity of any species or subspecies that has been described since his day, and to get a more comprehensive grasp of the avifauna of the Commonwealth than is possible when the literature was scattered. Mr. Mathews is himself a native of Australia, who has lived among the birds of the country, while he now resides near London, and therefore has ready access to British collections. He has himself a very extensive library of books dealing with his subject, to which he is constantly adding, and is thereby enabled to make a point of checking every reference, and also to state with certainty the locality whence the type-specimen of any form has been derived. Moreover, he has a very large collection of skins of Australian Birds, which should enable him to describe with accuracy the changes of plumage from the immature to the adult stage. He also employs at least one collector in every State of the Commonwealth, who continually forwards fresh consignments of material, with notes on the colours of those parts so apt to fade in preserved specimens.

Under each genus the author gives the synonymy, a short diagnosis, and a statement of distribution, followed by a key to the species. Similar details are to be found under the head of each species, with a full description, where possible, of the adult, the immature bird, and the chick. Details of the nest, eggs, and time of incubation are followed by a life-history of the bird and the literature dealing with it, long quotations being given from the accounts of actual observers. The plates, drawn by Keulemans, are good examples of that clever draughtsman's art.

In this part—which includes the Emus, the Cassowary, the Mound-builders, the Quails, and the Hemipodes—we may draw special attention in the first place to the four Emus, never previously figured in the same work. The Tasmanian form, now considered subspecifically distinct from that of the continent, is figured for the first time; while the King Island Emu is finally separated from that of Kangaroo Island as *Dromæus minor*, and a reproduction of Lesueur's plate in Péron's 'Voyage' is given, being one of the figures which Mr. Mathews considers to represent it. The letterpress must, however, be consulted for full details, and also for accounts of the other birds included in this part, to which space does not permit us to do more than refer to in passing.

Turnix olivii, of which only a single specimen is known, is also figured here; while it is claimed that the account now given of the life-histories of the Emus and Mound-builders in particular will clear up a good deal of misapprehension.

We do not quite understand why the articles are headed by trinomial appellations, whereas the names on the plates are binomial, and we do not like the spelling *Dromaius* for *Dromæus*. This can hardly be called a case of following the earliest spelling, but of foreswearing the practice of the Latin language itself. Are we to call Æneas Aineas, or Cyrus Kuros?

21. *Ménégaux on Birds from Bolivia and South Peru.*

[Etude d'une Collection d'Oiseaux provenant des hauts plateaux de la Bolivie et du Pérou Méridionale. Par A. Ménégaux. Bull. Soc. Philom. 1909.]

This collection contained examples of 51 species, some of which are of considerable interest—*Diuca behni* Reichen., *Pseudochloris olivascens berlepschi* (subsp. nov.), *Agriornis andecola paznæ* Ménég., *Fulica cornuta* Bp., *F. gigantea* Eyd. et Soul., *Phœnicopterus jamesi* Scl., and *Podiceps micropterus* (from Lake Titicaca).

22. *Pycraft on Birds.*

[A History of Birds. By W. P. Pycraft. With an Introduction by Sir Ray Lankester, K.C.B., F.R.S. With numerous Illustrations and Diagrams. London, 1910: Methuen & Co. 8vo, pp. i–xxx, 1–458.]

Mr. Pycraft's latest work, while it is of a somewhat popular nature, is the first of its kind to be written from the point of view of evolution. The idea is, of course, far from being new to scientific men, but books written for the general public have heretofore either treated the subject from a systematic standpoint or at least have not taken evolution as the main subject of their discourse. A glance at the table of contents will shew the wide scope of the present treatise, which, beginning with an essay on the general structure of Birds, their gradual development and relationships, proceeds to give a most excellent account of them as they are at the present day, their distribution, the effect of their surroundings, their migration, and their life-history in general. Their inter-relations with other animals and plants and their social habits furnish much food for thought; while the pugnacity and display of the males are considered in connexion with their ways in the breeding-season. Mr. Pycraft devotes a good deal of space to the question of reproduction and care of the young, and impresses upon us the fact that the study of Birds is one of living organisms, moulded by their inherent constitution and by the struggle for existence; while his whole book shews how far evolution has succeeded in attaining the objects for which it was intended. His knowledge of Osteology and Pterylography has greatly assisted him throughout, and he has taken much trouble to collect the large mass of facts which he now produces for our edification. Embryology is not treated in great detail, as it constitutes a separate subject in itself, but the young bird in general, its coloration, its changes of plumage up to the adult stage and so forth, are discussed at considerable length. The author is inclined to minimize the effect of sexual selection and to rely on natural selection as the chief agent in the production of a robust progeny, while he does not consider that acquired characters are transmissible. Apart from the special interest of the evolutionary development of the bird-world, there is much worthy of note in the final chapters, which among other subjects deal with artificial selection, the effects of isolation, structural and functional adaptations; while the last chapter of all is devoted to an account of convergent evolution, as in the case of the Owls and the Nightjars.

Mr. Pycraft states his own views freely throughout, and in most places we cordially agree with him, but in some cases, such as his theory of a direct north and south migration, we are hardly disposed to follow him on present information.

In conclusion, we must not omit to mention Sir Ray Lankester's masterly preface, which not only sums up admirably the main points of the book, but serves to call attention to those that are to be considered of the greatest importance.

This 'History of Birds' is one of the volumes of a series on 'Animal Life,' produced under the editorship of Mr. Pycraft, and we have no doubt that the whole of them will be up to the standard of the present excellent and valuable treatise. The illustrations are good and well suited to the text.

23. *The 'South African Journal.'*

[The Journal of the South African Ornithologists' Union. Vol. v. No. 3; Vol. vi. No. 1 (August, 1910).]

As the third number of the fifth volume of our contemporary only contains the Index, Minutes of Proceedings, and so forth, we are only concerned with the first number of the succeeding volume. This contains the Migration Report of South Africa for 1908–1909, and a special article on that of the White Stork by Mr. Haagner; no less than nine Storks "ringed" by the Vogelwarte Rossitten and the Royal Hungarian Bureau have been met with in the country, and of these occurrences particulars are given where possible.

Mr. C. G. Davies furnishes us with "A Second Contribution to the Ornithology of Eastern Pondoland," including both migratory and breeding species of birds; and Mr. F. Vaughan-Kirby contributes interesting field-notes on the recently discovered *Hemipteryx minuta*. A new species of Flycatcher, *Hyliota rhodesiæ*, is described by Mr. Haagner from the Matoppo Hills in Rhodesia; but he is careful to warn us that it may prove to be only an example of *H. australis* in a plumage unknown to him.

24. *Swarth on Two new Owls from Arizona.*

[Two new Owls from Arizona, with the Description of the Juvenal Plumage of *Strix occidentalis*. By Harry S. Swarth. Univ. of California Publ. in Zool. vol. vii. No. 1, p. 1 (1910).]

The two subspecies described as new are named *Otus asio gilmani* and *Strix occidentalis huachucæ*. The type-specimens are in the University of California Museum of Vertebrate Zoology at Berkeley, California.

25. *Thanner on the Birds of Grand Canary Island.*

[Beiträge zur Ornis Gran Canaria's. Von Rudolf v. Thanner. Orn. Jahrb. xxi. Heft 3 (1910).]

A few years ago it was supposed that the Birds of the Canary Islands were identical with the Birds of Europe, or nearly so. Only a few well-marked species were allowed to be distinct from their European representatives—*Fringilla teydea, Columba laurivora, C. bollii*, &c.

Nowadays, however, all is changed, and a large number of the Canarian forms have been separated as subspecies. Herr von Thanner, who, we believe, is a resident in Tenerife, passed four months in 1909 in Grand Canary, collecting for Dr. Koenig, and now gives us some of the results of his observations, which are well worthy of study, though we may not accept all the subspecies which he recognises. In his list of 50 species, representatives of which Herr v. Thanner collected or observed, no less than 23 have a third subspecific name attached to them. These, however, have not, in most cases, been given to them by Herr v. Thanner, but by Koenig, Madarász, Hartert, Polatzek, and other recent writers on Canarian Birds.

26. *Van Oort on new Birds from New Guinea.*

[Description of Eight new Birds collected by Mr. H. A. Lorenz in South-western New Guinea. By Dr. E. D. Van Oort. Notes Leyden Mus. xxxii. p. 211.]

Mr. Lorenz has brought back a collection of nearly one thousand bird-skins from his successful expedition to the snowy mountains of New Guinea. A report on the whole collection will be published in a work called 'Nova Guinea.' Meanwhile, Dr. Van Oort gives us descriptions of eight new species from the higher ranges. These are *Anurophasis monorthonyx*, gen. et sp. nov. Gallinarum ; *Psittacella lorenzi*, sp. nov., *Pœcilodryas quadrimaculatus*, sp. nov. ; *Pœcilodryas caniceps pectoralis*, subsp. nov. ; *Paramythia montium olivacea*, subsp. nov. ; *Daphœnositta miranda frontalis*, subsp. nov. ; *Oreornis chrysogenys*, gen. et sp. nov. Meliphagidarum ; and *Melirrhophetes nouhuysi*, sp. nov.

27. *Winge's Report on the Birds of the Danish Lighthouses*, 1909 *.

[Fuglene ved de danske Fyr i 1909. 27de Aarsberetning om danske Fugle. Ved Herluf Winge. Vid. Meddel. f. d. nat. For. i Kbhvn., 1910.]

This is the twenty-seventh annual report on the birds killed at the Danish Lighthouses and sent to the Zoological Museum in Copenhagen for examination. In 1909, 1287 such specimens were received from 37 Lighthouses, but the duplicates were not sent in all cases, and the total number of birds that perished in this way must have been at least 3000.

The specimens received in Copenhagen are referred to 85 species, among which *Alauda arvensis*, *Sturnus vulgaris*, *Sylvia hortensis*, *Phylloscopus trochilus*, and *Ruticilla phœnicurus* were numerous. Of the Thrushes, *Turdus iliacus* contributed 148 victims, *T. musicus* 133, *T. pilaris* 31, *T. torquatus* 21, and *T. merula* 22, but of *T. viscivorus* only a single specimen was received. Single specimens of *Muscicapa parva* and *Phylloscopus superciliosus* were taken. Of the Robin (*Erithacus rubecula*) 62 examples occurred. A large number of field-notes follow the systematic list, and a chart is added shewing the exact position of all the Lighthouses.

VI.—*Letters, Extracts, and Notes.*

We have received the following letters addressed to the Editors:—

Sirs,—It may interest your readers to know that I have just received from the Vladivostok Museum for identification a small collection of 87 salted bird-skins, made this summer by Mr. I. E. Efresnov in the Khabarovsk district on the Lower Amur, near Lake Bolen-Adjal, and that the collection contained a male specimen of the *Mergus squamatus* of Gould procured by Mr. G. I. Kornilaev on the river Kur near the new village Garmakhta, about 49½° N. and 134¾° E. of Greenur, on the 13th of August, 1910 (new style).

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* For a notice of the Report for 1908, see 'Ibis,' 1909, p. 712.

The colours of soft parts and the dimensions in the flesh are recorded thus by Mr. Kornilaev:—"Bill dark grey along the culmen, sides of bill and mandible red. Iris grey. Feet cinnabar-red, with dark yellowish webs. Length 570 mm., expanse of wings 750; the wings fall short of the tail by 93 mm."

Other dimensions, taken by me from the skin, are: wing 230 mm., tail (very much worn) 110; tarsus 44·5; middle toe with claw 61; bill along the exposed culmen 57 and from the fore end of the nostrils 36, height at base 15·3 mm.

From the fore end of the nostrils to the tip, each side, of the maxilla, there are 19 teeth-like lamellæ, as in *M. serrator*.

The specimen seems to be quite mature and to be assuming its fresh winter-garb. The mantle is glossy black, but there are numerous old feathers of a dark leaden grey with a somewhat brownish tinge. The lower back and rump are ashy grey and shew two broad dark concentric bars with white interspaces on each feather, giving this part a coarse scaly appearance. Most of the feathers have a dark shaft-stripe on the basal half. Wings coloured just as in the male *M. serrator*, the broad white mirror being divided into three by two broad black transverse bands. There are dark bases to the secondaries and their larger coverts.

The upper parts of the neck and head are olive-brown, with an occipital crest about 50 mm. long. This colour becomes rufous brown on the under surface of the head and on the two adjoining thirds of the neck. The lower throat, chest and breast, flanks and under tail-coverts are white, with two (three on the flanks) coarse dark concentric bars (each about 1½ to 3 mm. broad) on each feather. The remaining parts of the under side, including the breast, wing-linings, and axillaries, are white. All the white parts in this skin, which is still quite soft, have a beautiful intense pinkish tinge.

It seems quite probable that this bird may breed in the Khabarovsk district, going in the winter to Inner China.

Anyhow this skin adds a new and interesting species to the Palæarctic Fauna, and it is, so far as I know, the first summer specimen of *Mergus squamatus* on record. I will do my best to obtain fuller information about this little-known bird next season.

I am, Sirs,
Yours &c.,
S. A. Buturlin.

Wesenberg, Esthonia,
Russia.

[This is a rare bird of great interest, first discovered by Gould in 1861. In the collection made by Capt. Wingate in South China in 1898 (which was described by Mr. Ogilvie-Grant in this Journal for 1900) there was a fine pair of this Merganser (see 'Ibis,' 1900, p. 602, pl. xii.). These specimens are now in the British Museum, as is also Gould's original type.—Edd.]

Sirs,—I see that on page 730 of vol. iv. 9th series, 1910, of 'The Ibis,' in a notice of the 'Annals of Scottish Natural History,' you refer to a paper by me in the latter.

I wish to point out to you that Loch Martnaham is in *Ayrshire*, not Dumfriesshire, and that the American Bittern is alleged to have been shot there in *1848*, not 1898.

I am, Sirs,
Yours &c.,
Hugh S. Gladstone.

Capenoch, Thornhill,
Dumfriesshire.
Nov. 5th, 1910.

Sirs,—About twenty years ago, the late Mr. Howard Saunders told me that he had found an unrecorded egg of the Great Auk (*Alca impennis*) in a small museum in France. When, in 1894, the Earl of Gainsborough was residing at Dinard, Mr. Saunders informed him of this egg being at Dinan and at the same time gave me the information as to its locality. Lord Gainsborough tells me that when he saw the egg it was slightly broken, and my brother, who was at Dinan in 1895, described the egg to me as being cracked, poorly marked, and dirty.

Early in September last Mr. Henry Stevens, who was staying in St. Malo, kindly went with me to Dinan to photograph the egg. Upon our arrival we found that the Castle (until lately used as a prison) had been restored and made into a museum, but not finding many Natural History specimens exhibited, we called on the Curator, who told us that he knew nothing of any Great Auk's egg being in the collection. The birds and other animals were so old and badly stuffed that they were not worth moving and on the previous afternoon had all been stored in an attic at the Hotel de Ville. We then called upon the Maire, M. J. Jouanin, who very kindly accompanied us to the Hotel de Ville and had the room unlocked, and on the floor, amidst a jumble of stuffed birds, I found the remains of the Great Auk's egg.

Mr. Stevens kindly photographed the two largest fragments, $3'' \times 1\frac{1}{2}''$ and $1\frac{3}{4}'' \times 1\frac{1}{2}''$, and these shew that the egg was marked with faint blotches at the larger end. As few of the other fragments were so large as a shilling, it was impossible to form any idea as to the size or shape of the whole egg.

Yours &c.,
EDWARD BIDWELL.

Report of the South African Museum for 1909.—The report of this important Institution for the year ended 31st December, 1909, is rather a sad document. The severe measures of economy occasioned by the state of the Colonial finances have not spared the Museum. The Trustees complain of lack of space, insufficiency of staff, and want of funds, and shew most plainly that their remarks can be fully justified. Nevertheless, some progress has been made under nearly every head, especially as regards Vertebrate Palæontology. A good addition to the Bird-collection has resulted from the visit of Mr. P. C. Keytel, of Cape Town, to the Tristan da Cunha group of islands. In the series of eggs collected by him and presented to the Museum are examples of those of *Phœbetria fuliginosa*, *Thalassogeron culminatus*, *Catarrhactes chrysocome*, *Puffinus gravis*, *Prion vittatus*, *Stercorarius antarcticus*, *Sterna vittata*, and *Micranous leucocapillus*. The eggs of the Great Shearwater are of special interest, as, although it is "a fairly regular visitor to British waters," Saunders tells us that "nothing is known of its nidification," but that it is supposed to resort to some of the islands in the Southern Ocean for the purpose of reproduction. If the eggs in question have been correctly identified, Saunders's surmise will be proved to be correct.

New Ornithological Periodical.—We have received three numbers of a new ornithological periodical. Unfortunately it is in Russian, so we cannot make out much of it, but the Russian title is translated as "Messager Ornithologique" in French and as "Ornithologische Mittheilungen" in German, and the Editor is M. G. T. Poliakoff, Leontiewsky Pereulok, Moscow. Amongst the contributors we find the names of Buturlin, Alphéraky, and Sarudny, all well known to us. There is a long article by Alphéraky upon the birds of the Sea of Azov and by Sarudny on the ornithology of Turkestan. Mr. Buturlin makes a new genus of Campophagidæ, *Motacilloides* (type *M. cinereus* = *Pericrocotus cinereus* Latr.), and many new subspecies. He also reviews the Nightingales (*Philomela*) and makes a new species, *P. transcaucasica*. No worker on Palæarctic Birds should fail to consult this new Journal.

*The Expedition of the B.O.U. into Central New Guinea**.—We much regret to state that, in consequence of renewed attacks of fever, Mr. Walter Goodfellow, the Leader of the Central New Guinea Expedition, has been compelled to resign his post and is on his way home. Under these circumstances Capt. Cecil Godfrey Rawling, C.I.E., F.R.G.S., who went out as Surveyor to the party, has been instructed by the Committee to take the command, the duties of which, we are sure, he will execute with his well-known energy and ability. It appears that shortly after Mr. Goodfellow's return to Wakatimi in June last there were heavy floods on the River Mimeka, and the whole camp and surrounding country became covered with water. He and his companions were constantly obliged to walk about in water up to their knees, and much damage was done to the stores. When the flood subsided the whole camp became a bog, and it is no wonder that there were many cases of sickness. The headquarters have now been removed to a new camp on the Waitakwa River where it leaves the mountains, three days further up. But in order to get at the snowy peak of Carstenz it will probably be necessary to cross the Waitakwa, and to try another river further east, probably the Letakwa, where the waters are said to come down straight from the snow.

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* See 'Ibis,' 1910, p. 762.

Boyd Alexander's Collection of Birds.—From 'The Times' of December the 23rd we learn that the extensive collection of bird-skins formed by the late Mr. Boyd Alexander is to be presented to the Trustees of the British Museum, and will form part of the great National Collection at South Kensington. Of course no other more appropriate destination could be found for it. The specimens, which are from various parts of Africa, are about 4,000 in number. Alexander made his first African Collection in the Cape Verd Islands, which he visited in 1897. After a second visit to the Cape Verd Islands in the same year, he joined in an expedition up the Zambesi and its tributary the Kafué, and formed a series of nearly 1,000 skins.

In 1900 Alexander, who then held a commission in a West India Regiment, took part in the expedition for the relief of Kumassi, in which he was accompanied by José Lopez, his Collector. As the relief column advanced José followed slowly behind and formed an excellent collection.

On leaving Kumassi Mr. Alexander was sent with a column of Hausas to Gambaga, the head-quarters of the northern territories, where he met with many interesting forms of bird-life. From Gambaga he trekked in May, 1901, to Salaga, and thence on to the river Volta, finally reaching the coast at Accra. His collection of birds formed during this expedition numbers nearly 1,100 specimens.

In 1902, when he had completed the description of his Gold Coast collections, Alexander visited the island of Fernando Po, and discovered a large number of new species, including the remarkable long-tailed tree-warbler (*Urolais mariæ*), representing a new genus and species. From 1904 to 1907 he was engaged in the Alexander-Gosling Expedition, which crossed Africa from the Niger to the Nile and explored the countries bordering Lake Chad. The new species of birds obtained by him on this journey were some 29 in number.

On his last journey Alexander first visited the islands of San Thomé, Principe, and Annabon, in the Gulf of Guinea, on each of which he made a complete collection of birds. After touching at Fernando Po he crossed to Cameroon, ascending the peak and making extensive collections. Thence he proceeded to Lake Chad, and met with his death on the confines of Wadai on the 22nd of April last.

Descriptions of all the Collections except those of the last journey, which have been only lately received, were written by Alexander himself and published in this Journal. It is hoped that a general catalogue of his Bird-collection may be prepared and published with the dates and exact localities of every specimen.

Death of Captain Shelley.—With much regret we announce the death of Captain George Ernest Shelley, F.Z.S., M.B.O.U., of 30 Egerton Gardens, South Kensington, which took place at Bournemouth on the 29th of November last. We hope to be able to give some account of the life and work of this distinguished Ornithologist in our next number.

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VII.—*Notes on the Ornithology of Corsica.*

By the Rev. Francis C. R. Jourdain, M.A., M.B.O.U.

Introduction.

The island of Corsica (Κύρνος of the Greeks) lies in the Western Mediterranean due north of Sardinia, from which it is separated by the narrow Straits of Bonifacio. It lies between 41° 21′ and 43° N. latitude, and 8° 30′ and 9° 30′ E. longitude, and has an extreme length of 116 miles and a breadth of 52 miles, while the area is estimated at about 3368 square miles. It is easily accessible to English visitors by steamer from Marseilles, and there is a good service of boats from that port to Bastia and Ajaccio.

Almost the whole of the island is occupied by an intricate chain of mountain systems. The prevalent rocks are granite, gneiss, and mica slate; while beds of porphyry, serpentine, and syenite also occur. In the middle of the island the mountains attain considerable heights. The loftiest peak is Monte Cinto (8889 ft.), but Monte Rotondo (8609 ft.), Pagliorba (8284 ft.), and Monte d'Oro (7841 ft.) are formidable rivals. Towards the north, near Cap Corse, the scenery is tamer and a larger proportion of the land has been brought under cultivation, but except in the narrow belt of alluvial land along the east coast and the low ground on the foothills, the country remains unspoilt by the hand of man. Along the western and southern coasts the mountains jut out into the sea and the scenery is wild and picturesque in character. Along the eastern side, on the other hand, between the great rampart of rock, which reaches from north to south, and the Mediterranean, there lies a belt of almost level ground. In the neighbourhood of Aleria this plain is dotted with extensive lagoons, and, owing to the prevalence of malaria, is almost deserted in the height of summer. In fact, everywhere along the "plage" the population is partly migratory, and, when the hot weather sets in, a long procession of families wends its way towards the heights to spend the summer in the mountain-villages, which in their turn are deserted in the winter. Here, in the low ground are extensive woods of cork-oak and in some districts olive and orange groves and vineyards; while wheat, rye, and oats are also grown, but not in large quantities. On leaving the low ground and ascending the mountain, we find its sides clothed with forests, but these vary much in character. In the north-east the chestnut is the prevalent tree. Many of these trees are of great age and are little more than vast empty shells. In the north-west there are large olive-plantations, and in some districts the beech is largely grown, especially in the forest of Boccagnano, which covers some 13,000 acres. But perhaps the most characteristic forests of Corsica are the great pine-forests, such as those of Vizzavona (60,000 acres), Aïtone (3400 acres), &c. Three species of pine are found in the island, but the two most important are *Pinus pinaster* (or *P. maritima*) and *P. laricio corsicana*. These two are found in approximately equal numbers—one species prevailing in one locality and the other in a second, or both growing side by side. They are easily distinguishable by the fact that the trunk of *P. laricio* is much smoother and whiter than the deeply grooved and more highly coloured bark of *P. pinaster*. *Pinus pinea* is also found, but generally as isolated specimens, which were probably planted in the cultivated parts for the sake of the cones. The cones of all three species are very different and also form a ready means of identification. Above the forest-limit the bold granite peaks of the lower spurs, and the vast masses of the main mountain chains, covered for the greater part of the year with snow, stand out in bold relief. It must, however, not be supposed that the whole of the mountain surface is occupied by forests or barren peaks and snowfields. Everywhere in the island one meets with the "macchia," differing in character, of course—here consisting of cistus bushes, broom, and lavender, which is easily brushed aside and forms but a slight encumbrance in one's way; there a vast tangle of lentiscus, myrtle, azalea, and many other shrubs, extending high overhead and rendering progress almost impossible. But from an ornithologist's point of view this sea of brushwood has many advantages. In the first place, it furnishes a secure retreat for thousands of small birds, which breed there undisturbed, except perhaps at rare intervals when some wandering goatherd fires a patch of scrub, or the roots of the shrubs are grubbed up for pipe-bowls and the branches stacked for firewood.

One last word on the natural conditions. The presence of these great forests ensures a continual supply of pure fresh water from the hills. The rivers are, however, little more than rapidly flowing streams of no great size, haunted only by a few pairs of the local race of the Dipper and the Grey Wagtail.

Literature.

With regard to the literature, it is interesting to note that until quite recently nearly all the work of ornithological exploration had been done by Englishmen. Of late years, however, our German cousins have shown more activity in the field, while the late Professor Giglioli was instrumental in largely increasing the list of autumn visitors.

The following is a list of the most important publications on the subject:—

[In 1866 the Rev. W. H. Hawker visited the island and explored the higher mountains, but his paper in the 'Alpine Journal,' 1869, p. 269, contains nothing of interest to the ornithologist. The identification of the Imperial Eagle is probably an error for the Golden Eagle, *A. chrysaëtos*.]

1876. C. B. WHARTON, "Notes on the Ornithology of Corsica," Ibis, 1876, pp. 17–29.—An excellent list of 113 species, of which 90 were actually shot by the writer and the remaining 23 carefully identified. Mr. Wharton was in Corsica from September 26, 1874, to the beginning of May 1875, and most of his work was done along the west and north-east coasts. Among the more notable records is one of the breeding of the Carrion-Crow, *Corvus corone* L., in Corsica, the only instance known. Several species are admitted to the present list on the authority of this list alone, *e. g.* the Redwing, Aquatic Warbler, Ortolan, Collared Flycatcher, Great White Heron, and Little Bittern.

1876. W. JESSE [Supplementary Notes to Mr. Wharton's list], Ibis, 1876, pp. 380–383.—In this letter to the Editor, Mr. Jesse, after some general observations and critical notes, gives a list of 7 species obtained by him in 1865 and 1866 (of which 6 were not mentioned by Wharton) and of 7 additional species obtained in 1875, also not previously recorded, thus adding 13 species to the list.

1884. Dr. R. B. SHARPE, "On an apparently new Species of Nuthatch," P. Z. S. 1884, pp. 233, 329; "Further Notes on Whitehead's Nuthatch," *t. c.* p. 414, pl. xxxvi. (Description and figure of adult male and female of *Sitta whiteheadi*.)

1885. J. WHITEHEAD, "Ornithological Notes from Corsica," Ibis, 1885, pp. 24–48, pl. ii.—This is a most important annotated list of 176 species, identified or obtained by Mr. Whitehead during a residence of about fifteen months in Corsica, from November 1882 to June 15, 1883, and again in the first half of 1884. It contains valuable notes on the migration of many species as well as full breeding data, while many of the skins and eggs obtained are now at Tring and a few in the British Museum. Whitehead did not collect series of skins, but in most cases was content with only two or three specimens of each species. He is still the sole authority for the inclusion of some 32 species in the Corsican list, and is the only naturalist who has taken the eggs of the Common Whitethroat and Short-toed Lark on the island; while he was the first to investigate the breeding species as a whole. The most remarkable discovery made by him was, of course, the new species of Nuthatch known by his name—an isolated form the nearest allies of which are found in Canada and Mongolia!

1890. Prof. E. H GIGLIOLI, 'Primo resoconto dei risultati della inchiesta ornitologica in Italia. Parte seconda: Avifaune locali,' pp. 631–642. Introduction and briefly annotated list of 220 species, compiled from the papers of Wharton and Whitehead, together with the writer's own observations in September and October 1877 and October 1889.—This is the first attempt to collate what had been already recorded on the Ornithology of the island, and in addition many visitors on migration are mentioned for the first time. It must, however, be admitted that in several cases the evidence is far from conclusive, and confirmation is required, e. g., *Gecinus viridis, Athene noctua* (said to be resident and not rare), *Tadorna cornuta*, &c.

1891. J. Backhouse, "Winter Notes from Corsica," Zoologist, 1891, pp. 371–376.—A briefly annotated list of about 76 species observed in December 1890 and January 1891, chiefly in the neighbourhood of Ajaccio.

1897. H. C. Playne, "Ornithological Notes from Corsica," Zoologist, 1897, pp. 254–257.—A list of 60 species observed between April 10 and 21, 1897, while walking from Ajaccio across the mountains to the east coast and thence back to Corte.

1898. H. C. Playne, Zoologist, 1898, p. 275. Correction.—After a second visit in April 1898 two errors of identification in the previous paper were discovered (Citril Finch and Wood-Lark for Serin and Crested Lark) and two other species were added to the list.

1899. Dr. A. Koenig, Ornithologische Monatsberichte, vii. p. 120, "Eine neue Vogelart von der Insel Corsica." (Description of *Citrinella corsicana* with diagnosis.)

1900. A. D. Sapsworth, Bulletin Br. Orn. Club, xi. p. 12. Exhibition of skins of *Sitta whiteheadi* and note on the Corsican Dipper.

1901. Dr. A. Koenig, Journal für Ornithologie, 1901, p. 99. (Remarks on rare species from the Mediterranean Region, including *Sitta whiteheadi*, *Citrinella corsicana*, and the Corsican race of *Cinclus*, obtained in Corsica during the spring of 1896.)

1901. [Pastor O. Kleinschmidt, Ornithologische Monatsberichte, ix. pp. 167–169, "Beschreibung neuer Formen aus Tunesien und Sardinien." (Includes descriptions of *Strix ernesti*, *Accipiter wolterstorffi*, and a *Dendrocopus*, and notes on *Laniidæ* from Sardinia).]

1902. [Conte Arrigoni degli Oddi, 'Avicula,' vi. pp. 102–4. (Descriptions of *Dendrocopus major harterti*, *Cotile obsoleta sarda*, *Sylvia atricapilla pauluccii*, *Petronia petronia hellmayri*, and *Carduelis carduelis tschusii*, from Sardinia.)]

1902. Conte Arrigoni degli Oddi, 'Atlante Ornitologico,' p. 150. (Description of *Cinclus cinclus sapsworthi* from Corsica.) *Cf.* also Hartert, Bulletin Br. Orn. Club, xiv. p. 51 (1904), sub nomine *Cinclus cinclus sardus* (Sardinia).

1903. Pastor O. Kleinschmidt, Ornithologische Monatsber. xi. p. 6, "*Parus corsus*, forma nova" (Corsica); *t. c.* xi. p. 92, "Neue Formen von Sardinien" (Descriptions of *Corvus sardus*, *C. sardonius*, and *Garrulus ichnusæ*: Sardinia); *t. c.* xi. p. 152 (Description of *Astur gentilis arrigonii*: Sardinia); *t. c.* xi. p. 186 "*Parus sardus*, forma nova" (Sardinia).

1903. [Ritter v. Tschusi, Ornithol. Jahrbuch, xiv. p. 8, "Ueber paläarktische Formen" (Description of *Passer hispaniolensis arrigonii*: Sardinia); p. 139 (Description of *Garrulus glandarius sardus* from Sardinia).]

1903. [Siga. C. Picchi, 'Avicula,' vii. p. 40. (Description of *Buteo buteo arrigonii* from Sardinia.)]

1906. [Pastor O. Kleinschmidt, 'Falco,' ii. p. 71. (Description of *Erithacus dandalus sardus* from Sardinia.)]

1906. Dr. E. Hartert, Bulletin Br. Orn. Club, xvi. p. 45. (Description of *Regulus regulus interni* from Sardinia and Corsica.)

1908. Rev. F. C. R. Jourdain, Bull. B. O. C. xxiii. p. 16. (Exhibition of eggs of *Sitta whiteheadi, Sylvia sarda*, and *Certhia familiaris corsa* taken in May 1908 in Corsica, and accompanying remarks.)

1909. Rev. F. C. R. Jourdain, Ornithol. Jahrbuch, xx. pp. 139–143, "Weitere Beiträge zur Kenntnis der Eier von *Larus audouini* Payr." (Notes on the eggs and breeding habits of *L. audouini* and *L. argentatus cachinnans* as observed near Corsica and Sardinia.)

1909. Rev. F. C. R. Jourdain, Bull. B. O. C. xxv. p. 39. (Exhibition of a series of 14 eggs of *Larus audouini* Payr.)

1909. Rev. F. C. R. Jourdain and R. H. Read, Bull. B. O. C. xxv. pp. 22–3. (Exhibition of a series of eggs of 50 species of Corsican birds with nests, and notes on the results of two visits in 1908 and 1909.)

1910. Dr. G. Schiebel, Ornithol. Jahrbuch, xxi. p. 102, "Neue Vogelformen aus Corsica." (Descriptions of 7 new subspecies from Corsica and notes on other forms obtained by the writer in May and June 1910.)

1910. Dr. C. Parrot, Ornith. Monatsber. xviii. pp. 153–156, "Neue Vogelformen aus dem mediterranien Gebiet." (Includes descriptions of 7 new subspecies from Corsica obtained between January and June 1910, and critical remarks on those described by Dr. Schiebel.) Also correction of nomenclature, *t. c.* p. 184.

1910. Dr. C. Parrot, Ornith. Jahrbuch, xxi. pp. 121–166, "Beiträge zur Ornithologie der Insel Korsika." Full critical notes on some 41 forms, including descriptions of *Ægithalus caudatus tyrrhenicus* and *Regulus ignicapillus minor*. [First instalment: but we notice with deep regret the announcement of Dr. Parrot's untimely death in January last.]

As will be noticed, this list contains references to a few papers in which Sardinian subspecies which are common to both islands have been described, but no attempt has been made to include works which deal with the fauna of Sardinia only, such as the papers by Cara, Salvadori, and Brooke. Lord Lilford explored the islands in the Straits of Bonifacio in his yacht while searching for the breeding-places of *L. audouini* (*cf.* 'Ibis,' 1887, pp. 261–283), and also obtained in February 1875 the specimens of *Carduelis citrinella corsicana* which were figured in Dresser's 'Birds of Europe,' iii. pl. 167. The works of Giglioli, Arrigoni, and Martorelli also contain references to Corsican birds. Major H. Trevelyan visited the island from Jan. 13 to Feb. 23, 1909, and obtained 36 specimens of 16 species, which he presented to the British Museum; these are now incorporated in the general collection.

In the following paper the nomenclature of Dr. Hartert in his 'Vögel der paläarktischen Fauna' has been adopted (with a few modifications) as far as possible, not only because it is the only general work on the Palæarctic ornis which gives an adequate description of the numerous forms which have already been described, but also because it is an attempt to rigidly carry out the rules of International nomenclature. In this work also two races from Corsica are described for the first time (*Certhia familiaris corsa* and *Parus cæruleus ogliastræ*).

Systematic List.

1. Corvus corax sardus Kleinschmidt. Sardinian Raven.

Corvus sardus Kleinschmidt, Ornithol. Monatsberichte, xi. p. 92 (1903—Sardinia).

Local name: *Corbo.* The Raven is found both in Corsica and Sardinia and is a sedentary species, nowhere plentiful, but generally to be met with in scattered pairs along the rocky coasts and also in small numbers among the mountains inland. The Sardinian form is intermediate between the continental race, *C. corax corax* L., and the Maroccan bird, *C. corax tingitanus* Irby, but has, as a rule, a longer wing and a more slender bill than the latter form, while it closely resembles the Spanish race, *C. corax hispanus* Hart. & Kleinschm. Four specimens obtained by Dr. Parrot from Corsica shew considerable variation, but all have a short tarsus and have the bill decidedly longer and more slender than in *C. c. tingitanus*; they are probably referable to

C. c. sardus. Most of the breeding-places are in the sea-cliffs, where alternative sites close at hand are utilized year after year. Occasionally, however, a pair may be found breeding in an isolated clump of rocks at some distance from the sea. Whitehead found three nests with eggs, two clutches of 6 eggs, and one addled set of 4, all on rocks. Those which I examined in 1908 and 1909 were also on rocks and all contained five well-fledged young, which were still in the nest at the end of May. The eggs are apparently laid about the end of March or the first week of April, so that the nesting-season is about a month earlier than in S. Spain, though rather later than in the British Isles. Average size of 16 Corsican eggs, 46·55 × 32·78 mm.; max. 59·3 × 36·5, min. 44 × 30·5.

2. Corvus cornix sardonius Kleinschmidt. Sardinian Hooded Crow.

Corvus sardonius Kleinschmidt, Ornithol. Monatsberichte, xi. p. 92 (1903—Sardinia).

Local name: *Cornacchia.* This form, originally described from Sardinia, is common to both Corsica and Sardinia (Hartert, Vög. pal. Fauna, i. p. 10). Its distinctive characters are its slightly smaller size and a pale brownish tinge, which is apparent on the grey, both above and below. It is a common resident on the low ground and is most numerous along the east coast, but is rare or absent in the hills inland. In its breeding-habits it shews extreme caution, although bold enough at other times; and it is interesting to note how a pair of birds, which have been silent and skulking hitherto, will suddenly break out into discordant and noisy croaking when they become aware that their nest has been discovered. As noted by Wharton, a favourite breeding-place is in a tree on the border of a swamp. The eggs are usually 4, sometimes 5 in number, and are laid from April 12 (Wharton) to about May 10. Whitehead, however, took none before April 26. Average size of 28 Corsican eggs, 43·35 × 29·52 mm.; max. 48·5 × 30·7 and 45·7 × 31·2, min. 40·9 × 28·2 and 41·4 × 27·8 mm.

3. Corvus corone L. Carrion-Crow.

A scarce winter visitor, noted on a few occasions by Whitehead and by Backhouse near Ajaccio. Apparently it has been known to stay and breed on at least one occasion, for Wharton ('Ibis,' 1876, p. 24) records it as nesting on April 30, a rather late date for the south. Dr. Parrot (Orn. Jahrb. xxi. p. 126) is somewhat sceptical as to the occurrence of this species, but it is scarcely probable that all three observers were mistaken.

4. Corvus frugilegus L. Rook.

Winter visitor: according to Whitehead very common on the east coast, leaving at the end of February and not seen after the beginning of March. Parrot noticed several birds, which probably belonged to this species, near Biguglia on Jan. 7, and also saw a flock of about 20 over the Golo Valley.

5. Colœus monedula L. Jackdaw.

A scarce winter visiter: Whitehead observed a few in company with Rooks in winter on the east coast.

6. Pica pica (L.). Magpie.

An accidental autumn and winter visitor, only twice recorded. Giglioli mentions one seen near Corte on Sept. 16, 1877, and Parrot records another from the north-east of Corsica near Biguglia on Jan. 7, 1910.

7. Garrulus glandarius ichnusæ Kleinschmidt. Sardinian Jay.

Garrulus ichnusæ Kleinschmidt, Ornithol. Monatsber. xi. p. 92 (1903—Sardinia).

Garrulus glandarius sardus Tschusi, Ornithol. Jahrbuch, xiv. p. 140 (1903—Sardinia).

Local name: *Ghiandaia*. Common to both Corsica and Sardinia, and tolerably plentiful in the wooded parts of the low ground and foot-hills, though in the pine-forests on the mountains it is comparatively rare. It is an easily recognisable form, and the distinctions between it and the British race were pointed out by Backhouse as far back as 1891.

It is rather a smaller bird than the ordinary continental race, with only a slight reddish tinge on the grey back. The eggs are 5 or 6 in number and may be found during the first half of May, usually from about the 7th to the 16th. Average size of 43 Corsican eggs, 31·25 × 23·2 mm.; max. 34·5 × 23·5 and 31 × 24·4, min. 28·5 × 22·8 and 30 × 21·7. They vary a good deal in type of colouring as well as in size. Like the other Jays, the hen is a very close sitter and an excellent mimic, imitating the mew of the Buzzard to perfection.

8. Pyrrhocorax pyrrhocorax (L.). Chough.

Whitehead mentions having seen five on Jan. 29, and met with them again at the same place on March 16. No other records.

9. Pyrrhocorax graculus (L.). Alpine Chough.

Whitehead saw several large flocks, but was not able to identify them till March 16, 1884. He was informed by the natives that they stay to breed, but considered this doubtful. Giglioli records this species as seen in the Valle della Restonica on Oct. 5, 1889.

10. Sturnus vulgaris L. Starling.

Local name: *Stornello* (North Corsica). A winter visitor, chiefly seen on the autumn and spring passage. Wharton only noticed it from February to April, but Whitehead observed small flocks in winter and, curiously enough, saw none after the end of February. Backhouse saw only one bird in the Ajaccio market during December and January; but Giglioli records great parties near Sagone on Oct. 5, 1877, and Playne notes a flock of Starlings near the east coast in April 1897. Parrot records one from the Campo de L'Oro on March 1 and two flocks on March 17, while others were met with on March 21-22 between Piana and Cargese and near Sagone. The specimens obtained by him proved to agree closely with Central European birds.

11. Sturnus unicolor Temminck. Sardinian Starling.

Giglioli was the first to record this species. He did not meet with it himself, but it was reported as a not uncommon visitor to Sartène and Bonifacio, though not resident there. It has apparently extended its breeding-range northwards of late years, and has now established itself at any rate as a summer visitor in the low-lying country to the south-east of the island, where a good many scattered pairs breed in holes of cork-oaks. First eggs found on May 9.

12. Oriolus oriolus (L.). Golden Oriole.

Visits the island on passage only. Wharton saw large numbers, chiefly males, at Biguglia on April 17, but few afterwards. Whitehead records its first occurrence on April 24; but he saw few pass, and the last on May 29.

13. Coccothraustes coccothraustes (L.). Hawfinch.

Local names: *Capi grossi* (north), *Schia korino* (south); *Pizzigone* (Giglioli). Resident and not uncommon, but owing to its retiring habits not often seen. It breeds not only in the low ground, but also in the mountain forests to over 3000 ft. at least. Jesse records it from the Bastia market, while Backhouse, Trevelyan, and Parrot obtained specimens from the Ajaccio market in winter. Whitehead describes it as fairly common, but very local. He only saw one bird on the west coast, but took two nests with fresh eggs on May 16 and an incubated clutch on June 6. I found nests in 1908 and 1909 in lichen-covered cork-oaks with full clutches on May 27 and 28, and also observed the birds in the alder groves among the high pine-forests in the middle of May. (For notes on Corsican specimens of this species, see Hartert, Vög. pal. Fauna, i. p. 56, and Parrot, Ornith. Jahrbuch, xxi. p. 127.) Average size of 9 eggs, 23·22 × 17·31 mm.

14. Ligurinus chloris chloris (L.). Greenfinch.

Local name: *Verdone*. A tolerably common resident in the hills as well as on the low ground. Parrot records this species under the name of *Chloris chloris aurantiiventris* (Cab.) with a query (?), but all the breeding birds seen by me were obviously duller in the colouring of the under surface than Spanish birds. From the wing-measurements given (Orn. Jahrb. xxi. p. 130) it appears, however, that Corsican birds are, as might be expected, shorter-winged than continental specimens, and may eventually be separated on that account. Eggs, 4–5, usually laid about mid-May, but on one occasion by May 1.

15. Carduelis carduelis tschusii Arrigoni. Sardinian Goldfinch.

Carduelis carduelis tschusii Arrigoni, Avicula, 1902, p. 104 (Sardinia).

Local name: *Cardellina.* This small, dark, short-winged, and slender-billed race is common to Corsica and Sardinia, and is an extremely numerous resident in all the low ground and foot-hills, but appears not to extend its range to any height in the mountains. Probably several broods are reared during the season, as Whitehead in his MSS. notes records having found young at the beginning of April. I met with one nest with young on May 11, but found many with fresh eggs in the latter part of May, and Whitehead took fresh eggs as late as June 10. The beautiful little nest is often placed in the olive, ilex, and cork-oak trees near the villages, and is distinguishable at a glance from that of the Serin by the white down lining, which replaces the thick lining of hair found in the rather smaller nest of the latter bird. The eggs, however, vary in size a good deal and are often indistinguishable, though those of the Goldfinch are usually longer. Average size of 42 Corsican eggs, 16·81 × 12·79 mm.; max. 18·2 × 13·2 and 17·9 × 13·5, min. 15·6 × 13·1 and 15·8 × 12.

16. Carduelis spinus (L.). Siskin.

Whitehead met with this species in the early spring of 1884: a male was shot by him on Feb. 4, and some individuals stayed till nearly the end of March.

17. Carduelis cannabina mediterranea (Tschusi). Mediterranean Linnet.

Acanthis cannabina mediterranea Tschusi, Ornith. Jahrbuch, xiv. p. 139 (1903—Dalmatia).

Linnets are common in winter in Corsica, and a few pairs are resident. According to Dr. Parrot the specimens obtained in winter belonged to the small Mediterranean race. Whitehead saw a pair building in a high valley among the mountains on March 17, and Playne describes this species as common in the hills in April. We came across a pair or two which haunted some rocky islets off the east coast on May 15, and must have been breeding there.

18. Carduelis citrinella corsicana (Koenig). Corsican Citril Finch.

Citrinella corsicana Koenig, Ornith. Monatsber. vii. p. 120 (1899—Corsica).

Local names: *Ouvaron*; *Lueru* (Giglioli). This very distinct form, easily recognisable by its brown back and yellowish rump, was figured by Dresser in the 'Birds of Europe,' vol. iii. pl. 167, as the winter plumage of the Citril Finch, from specimens obtained by Lord Lilford in 1875. It is a common resident, in the summer months chiefly confined to the mountains, though a few pairs breed in the "macchia" on the hill-sides close to the sea, but descending to the low ground in the winter and consorting with Serins, Goldfinches, and Linnets. In some of the more open parts of the mountains, where the forest is replaced by low scrub and scattered trees, it is extremely numerous, and its musical notes may be heard in all directions among the macchia. Whitehead ('Ibis,' 1885, p. 39) gives a good description of the nest, and notes the variation in the breeding-season according to altitude. He met with young a few days old near the coast on April 29, while on May 14 he found fresh eggs in the hills, and higher still some birds had not built by the end of May. Average size of 8 Corsican eggs, 17·65 × 13·4 mm.; max. 19 × 13·5 and 18·2 × 13·7, min. 16 × 12·5.

19. Serinus canarius serinus (L.). Serin.

Local names: *Ziarina* (north), *Verdone* (south); *Ziverino* (Giglioli). This is another very common and characteristic resident, the numbers of which are increased during the winter by immigrants. It is most plentiful on the low ground and foot-hills, nesting, as Whitehead remarks, in the olive and cork trees, often quite close to villages. It also breeds in ilex and pine trees. Unlike the Goldfinch, however, it is also met with in the clearings of the pine-forest, where there is an undergrowth of heath (*Erica*), up to at least 3000 ft., and here the nest may occasionally be found in tall heath. The tiny structure with its characteristic lining of hair is, as a rule, difficult to find, even where the birds are common. Not one of the seven or eight nests examined contained more than four eggs. Whitehead took eggs on April 8 and 16; but although one nest was found with fledged young on May 13, seven others all contained eggs between May 9 and 30.

20. Loxia curvirostra curvirostra L. Crossbill.

Resident in the pine-forests, where Whitehead describes it as fairly common, and saw a few family-parties of six or seven on the wing in May. Out of several shot, none were in bright red plumage. Hartert, who has compared specimens, ascribes them to the ordinary continental form. I met with one flock of perhaps twenty birds in high-lying pine-forest on May 27, all of which appeared to be in yellowish-green plumage. It was interesting to watch them at work on the cones which still hung on a dead pine, but after a few seeds had been extracted the cone was often allowed to fall to the ground. Among a series of Corsican bird-skins recently acquired by the Hon. W. Rothschild are those of two adult Crossbills, one in red plumage, and also a nestling. All are from Vizzavona, and the old birds agree well with the ordinary continental race, except in being shorter-winged (95 and 90 mm.). The nestling, which cannot have left the nest for more than two or three weeks, is dated September 25, so that eggs must have been laid about the end of July or early in August!

21. Fringilla cœlebs tyrrhenica Schiebel. Corsican Chaffinch.

Fringilla cœlebs tyrrhenica Schiebel, Ornith. Jahrbuch, xxi. p. 102 (1910—Corsica).

Local names : *Pinzilione* (north), *Pincione* (south).

An extremely common and widely distributed resident, breeding in summer not only on the low ground but also in the mountain forests to well over 3000 ft. at least, and probably higher. Corsican birds appear to belong to a fairly recognisable race, in which the colour of the whole upper side is darker, while the black on the wings is remarkably deep. Parrot (Orn. Jahrb. xxi. p. 137), however, states that he has a precisely similar specimen from W. Prussia in autumn! Besides the ordinary notes to which we are accustomed in England the Corsican bird has also a long drawn out, Greenfinch-like note, which I have noticed in Denmark and other parts of the Continent. Whitehead took the first eggs on May 11, but on one occasion I found young on May 9, though many fresh clutches, usually with 4, sometimes 5 eggs, were found in the latter part of May. Average size of 13 Corsican eggs, 19·13 × 14·98 mm. ; max. 20·3 × 15·5, min. 18 × 15 and 18·5 × 14·4.

22. Fringilla montifringilla L. Brambling.

Local name : *Pinziolo* (Giglioli). Winter visitor: recorded by Giglioli on passage in October, and by Parrot twice from the Ajaccio market, as well as in small flocks on the Campo de L'Oro on February 7 and 15.

23. Petronia petronia hellmayri Arrigoni. Sardinian Rock-Sparrow.

Petronia petronia hellmayri Arrigoni, Avicula, vi. p. 104 (1902—Sardinia).

A local resident in small numbers. Wharton and Parrot record it from the neighbourhood of Ajaccio in December and March. It must also breed in this district, as Parrot subsequently received a specimen on May 27. Whitehead saw very few on the west coast, but met with one or two small flocks on the east side in winter and also found a few pairs, evidently nesting, in high mountains at the end of May. I saw a few near Solenzara on May 7; and on May 10, while inspecting a nest of the Red Kite, *Milvus milvus*, was interested to see a number of Sparrows going in and out of it. On climbing the tree I found a single big young Kite in grey down, but could find no Sparrows' nests among the foundations of the Kite's nest. It was interesting to note that the Sparrows only vacated the nest on the return of the Kite, and evidently subsisted on the pickings of the Kite's larder. The mystery of the nest was, however, solved by accident, for on May 29 we happened to be in the same district again. Several pairs of Bee-eaters, *Merops apiaster*, were breeding in the hard soil, not in steep banks, but in burrows made in almost flat ground. While digging out one of these I was astonished to come across feathers, bits of straw, and all the untidy mess usually associated with a Sparrow's nest, and presently I was able to extract the nest and six typical maroon-coloured Rock-Sparrow's eggs! Five minutes' watching enabled us to identify the anxious parent as she flew from bush to bush, obviously uneasy. Another bird was carrying building material in its bill, and probably several pairs were breeding close at hand *. Subsequently I obtained another nest at the end of May, which was placed in a hole in a cork-oak, and contained the remarkably large number of 8 eggs. These 14 eggs average in size 21·5 × 15·2 mm.: max. 22·7 × 14·9 and 21 × 16, min. 20·3 × 15·8 and 22·2 × 14·5.

The Sardinian Rock-Sparrow is not a well-defined local race, but is distinctly darker than specimens from the European continent.

24. Passer italiæ (Vieill.). Italian Sparrow.

Local names: *Passera; Cardaino* (Giglioli). A very common resident in the inhabited parts of the island, especially on the low ground. It is, however, absent from some of the hill-villages. Parrot has pointed out that, as a rule, Corsican birds are rather shorter-winged than Italian specimens (Ornith. Jahrbuch, xxi. p. 141). Like

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* The reference in the Orn. Jahrb. xxi. p. 139 to nests discovered in the eyrie of the Red Kite is due to a misunderstanding of some remarks made by me at the Berlin Ornithological Congress on the parasitic habits of this colony. [F. C. R. J.]

P. domesticus it nests in trees as well as in buildings and often several big, untidy nests may be seen high up in the olive-trees close to the towns. The holes left for scaffolding in houses are also frequently occupied. The breeding-season is rather late: the earliest date I have for a full clutch is May 9, but few eggs are laid before the middle of the month and most in the latter part of May and early in June, while the clutch generally consists of 5 or 6 eggs.

[*Passer hispaniolensis arrigonii* Tsch. (Ornith. Jahrbuch, xiv. p. 8), described from Sardinia, may possibly occur in Corsica also, but at present there seems to be no evidence to that effect.]

25. PASSER MONTANUS (L.).

A series of five specimens was collected for Dr. Parrot from the neighbourhood of Ajaccio in mid-May, and Dr. Schiebel also recognised it. None of the other observers appears to have noticed it. Wings 66·5–69 mm. (4 males), 63·5 (1 female).

26. EMBERIZA CALANDRA INSULARIS Parrot. Corsican Corn-Bunting.

Emberiza calandra obscura Parrot, Ornith. Monatsber. xviii. p. 53 (1910—Corsica).

Emberiza calandra insularis Parrot, *t. c.* p. 184.

Both Wharton and Whitehead describe the Corn-Bunting as a fairly common resident, but Parrot noticed none near Ajaccio till March 1, and regards it as a migrant. It is probably resident in the low-lying parts of the island, but is not found in the mountains, and is subject to local movements during the winter. It is apparently commonest on the Campo de L'Oro, but also breeds sparingly along the east side of the island. Parrot distinguishes it on account of the darker ground-colour of the mantle and more distinct markings, but I have not been able to examine specimens. The eggs are laid in the latter half of May, and are 5–6 in number; 11 Corsican examples average only 23·57 × 16·61 mm. in size; max. 24·3 × 17·1, min. 23 × 16·5 and 24 × 16·1.

27. Emberiza cirlus nigro-striata Schiebel. Corsican Cirl Bunting.

Emberiza cirlus nigrostriata Schiebel, Ornith. Jahrbuch, xxi. p. 103 (1910—Corsica).

A very generally distributed species, descending to the plains during the winter months, but breeding in the mountains to over 3000 ft., as well as in smaller numbers on the low ground. Schiebel distinguishes the Corsican race on account of the darker and more extensive markings on the under surface. Parrot, however, states that in some cases this character does not hold good. The five examples that I have examined from Corsica were certainly much more striated on the under side than continental birds, and tend to support Dr. Schiebel's view. This species breeds in scattered pairs among the macchia on the hill-sides, nesting in the heath, furze, and bushes, generally 2 to 4 ft. above the ground. Most nests contain 4 eggs, but occasionally 5 are met with, and full clutches may be found as early as May 13, though more generally between that date and the beginning of June. Average size of 48 Corsican eggs, 21·57 × 15·86 mm.; max. 23·7 × 16·5 and 22·5 × 16·7, min. 19·3 × 15·4 and 20·4 × 14·7.

28. Emberiza hortulana L. Ortolan.

Wharton reports a few seen at Biguglia on April 30 and May 1. No other records.

29. Emberiza schœniclus (L.). Reed-Bunting.

Winter visitor, not common. Wharton shot the only one he saw on March 17 at Biguglia; and Whitehead reports a few as seen in winter.

30. Melanocorypha calandra (L.). Calandra Lark.

Only mentioned in Giglioli's list, where it is recorded as scarce.

31. Calandrella brachydactyla brachydactyla (Leisl.).

Resident in small numbers. Whitehead saw only a few on the east coast, but on June 24 met with it in numbers on the west side and found a nest with two eggs. Parrot obtained a single dark male bird, which was shot on April 19 near Cocame. A Lark seen in a cornfield near Aleria on May 7 was almost certainly of this species.

32. LULLULA ARBOREA FAMILIARIS Parrot. Corsican Wood-Lark.

Lullula arborea familiaris Parrot, Ornith. Monatsber. xviii. p. 153 (1910—Corsica). *Cf.* Hartert, Vög. pal. Fauna, i. p. 242.

Local names: *Ciurcullu* (north), *Cuchagiola* (south); *Peúda* (Giglioli), generic. A common resident, not only in most of the open country on the low ground, but also in smaller numbers in the clearings in the forests and on the hills up to over 3000 ft. Hartert was the first to point out the characteristics of this local race, but had only winter-killed specimens, which might have been migrants. As stated by Parrot, the upper surface is darker and less rusty than in the continental form, while the rump and upper tail-coverts are olive-grey brown and the streaks on the breast more distinct. Whitehead met with flocks in the winter months, but Backhouse describes it as haunting the waste ground in small parties in winter, and Parrot as usually found in pairs. Apparently the breeding-season is late in Corsica, for Whitehead found numbers of nests after May 13, and those which I saw were taken between May 16 and 31. The clutch consists of 4 or 5 eggs, on which the hen sits so closely that she is sometimes caught by the natives to be kept as a cage-bird. The eggs are rather variable in size, but the average differs little from that of the ordinary form. Average size of 24 Corsican eggs, 20·94 × 15·96 mm.; max. 24·3 × 16·4, min. 19·4 × 16 and 20·7 × 15·2.

33. ALAUDA ARVENSIS CANTARELLA Bp. Mediterranean Skylark.

Local name: *Peúda* (Giglioli), generic. Skylarks are common winter visitors to Corsica, but the majority have left by the end of March. Parrot, however, received a female obtained on April 5, so that possibly a few pairs breed on the island. Wharton describes the bird as not at all common in autumn or early winter, very common from January to March, but rare in April: Whitehead saw none after March, and says it is not nearly so common as the Wood-Lark; while Backhouse found it very abundant in January near Ajaccio, and Parrot only met with three individuals on the Campo de L'Oro on March 1 during the whole of his stay. Two specimens obtained by Parrot had remarkably short wings (96 and 103 mm.), and are ascribed by him to the Mediterranean race.

[To be continued.]

VIII.—*On the Birds collected by Mr. Claude H. B. Grant at various Localities in South Africa.* By W. L. SCLATER, M.A., F.Z.S., M.B.O.U. *With Field-Notes* by the Collector.

(Plates III. & IV. and Text-figures 8 & 9.)

FOR a period of nearly five years Mr. Claude Grant was engaged in forming a collection of the Vertebrates of South Africa. The cost of this exploration was entirely borne by Mr. Charles D. Rudd.

The choice of localities to be visited and the general direction of the matter was left to Mr. Oldfield Thomas, while the primary object of the exploration was to increase the collection of Mammals in the National Collection, a result which was amply accomplished, and is fully detailed in the series of papers published by Messrs. O. Thomas and H. Schwann in the 'Proceedings of the Zoological Society of London' for the years from 1904 to 1908.

In the intervals, however, of trapping small Mammals, Mr. Grant found time to make a very extensive collection of bird-skins. These, apart from the novelties, are a most valuable addition to the British Museum, as the South African series there was previously in some respects singularly deficient.

The following is a dated itinerary shewing the various localities at which birds were collected, all of which will be found in the sketch-map (text-fig. 8, p. 213).

1903.	Jan. 29–Feb. 10.	Slopes of Table Mt., near Capetown.
,,	Feb. 22–Mch. 8.	Tokai, ,, ,,
,,	Mch. 11–Mch. 18.	Durban Road, ,, ,,
,,	Mch. 30.	Port Nolloth, Little Namaqualand.
,,	Apl. 2–July 16.	Klipfontein, ,, ,,
,,	[Apl. 1, May 27, June 2.]	Anemous, ,, ,,
,,	July 28–Sept. 4.	Port Nolloth, ,, ,,
,,	Sept. 16–Sept. 27.	Durban Road, near Capetown.
,,	Oct. 24–Feb. 4.	Sibudeni and Jususie Valley, Zululand.
1904.	Feb. 29–Apl. 18.	Wakkerstroom, S.E. Transvaal.
,,	Apl. 23–May 21.	Zuurbron, ,,
,,	June 24–Sept. 15.	Umfolosi Station, Zululand.
,,	[Aug. 14, 17.	Ntambana Hills;
,,	Aug. 15.	Umzinele River;
,,	Aug. 20–24.	Hluhluwe Stream;
,,	Aug. 24.	Somkele, Zululand.]
,,	Sept. 24–Oct. 26.	Ngoye Hills, Zululand.
,,	Nov. 4.	Durban, Natal.
,,	Nov. 7–Nov. 21.	Illovo, ,,
,,	Dec. 15–Feb. 19.	Knysna, Cape Colony.
1905.	Feb. 20–Mch. 26.	Plettenberg Bay, ,,
,,	Apl. 1–Apl. 23.	Knysna, ,,
,,	May 10–June 20.	Woodbush, N.E. Transvaal.
,,	July 8.	Swali Nek, ,,
,,	July 12–Sept. 26.	Klein Letaba, ,,
,,	Nov. 1–Feb. 14.	Woodbush, ,,
1906.	Feb. 20–Mch. 11.	Pietersburg, ,,
,,	Mch. 14–Mch. 27.	Turfloop, ,,
,,	Apl. 20–May 18.	Legogot, E. Transvaal.
,,	June 14–Sept. 12.	Coguno, Portuguese E. Africa.
,,	Oct. 23–Nov. 18.	Masambeti, ,, ,,
,,	Nov. 22–Feb. 24.	Beira, ,, ,,
1907.	Mch. 12–July 18.	Tambarara, ,, ,,
,,	Aug. 12–Sept. 22.	Tete, ,, ,,

Collecting was begun early in 1903 round Capetown at Tokai, the forest-school on the slopes of Table Mountain, and at Durban Road, a railway-station about ten miles from Capetown, on the main line up country.

The period from April to September, 1903, was spent in the desert-like country of Little Namaqualand, in the north-west corner of Cape Colony. Most of the time was spent at Klipfontein, a place about fifty-four miles inland from Port Nolloth on the Cape Copper Company's railway, at an elevation of about 3100 ft., on the edge of the plateau; some days at Anemous, a few miles nearer the sea, at 1800 ft.; the rest at Port Nolloth in the desolate coastal plain.

From October 1903 to February 1904 the time was occupied in collecting at Sibudeni (1100 to 1700 ft.) and in the Jususie or Insuzi Valley, a bush and forest country about twenty miles west of Eshowe in Zululand. The rest of the Zululand collection was made later in the same year between June and October. The chief and most productive collecting-place was Umfolosi (or Umvolosi), a Station on the Zululand railway about three miles from the river of the same name and fifteen miles from the sea. Here the elevation was only from 100-200 ft. above the sea-level. Other localities, a few miles to the north, such as Somkele and the Hluhluwe Stream, were also visited, but very few birds were taken there. Finally, a month was spent in the Ngoye or Umgoye forest, about fifteen miles east of Eshowe and about six or eight hundred feet above the sea, which is some eight miles away.

The summer months of 1904–5 were again spent in Cape Colony, at Knysna, and at Plettenberg Bay, a few miles to the east. Knysna is historic ground; it is the nearest bit of true forest to Capetown, and was visited by all the earlier South African naturalists and travellers—Levaillant and Lalande, Victorin and Andersson, and many others. The ground rises very steeply from the sea to about 4000 ft. and is covered with magnificent forest, and it is here that forest birds—Trogons, Touracos, and Parrots—are first met with.

Grant also spent a good many months in the eastern part of the Transvaal, visiting first, in the winter of 1904, Wakkerstroom, a well-known place in the south-east corner of the Transvaal, at an elevation of about 5500 ft., and therefore well on the "high veld," and a smaller place, Zuurbron, about twenty miles further east, at the slightly lower elevation of 4800 ft. From May 1905 to March 1906 he was in the Zoutspansberg district in the North-East Transvaal, spending part of the time, July to September, at Klein Letaba, a small "dorp" on the Letaba River, in 23° 21′ S., 30° 40′ E. This was a fever-laden spot in the "low veld" lying below the Drakensberg escarpment, at about 1000 ft. above the sea. Three summer and two winter months were passed at Woodbush on the "high veld" about thirty miles N.E. of Pietersburg, at about 4500 ft., close to the escarpment, and a short time at Pietersburg itself and at Turfloop, halfway between Pietersburg and Woodbush. Legogot, the last place visited, is in the Barberton district at about 3000 feet elevation, a few miles north of the Pretoria-Delagoa Bay railway.

From June 1906 to September 1907 Grant was in Portuguese East Africa. Coguno, the first place visited, is about seventy-five miles S.W. of Inhambane. The country is forest and dense bush and rather flat, probably in all cases under 1000 ft. in elevation. Then Beira, the port of Rhodesia, was reached, and Masambeti, a place on the railway about twenty-three miles from Beira. Here the country was low-lying and flat, with patches of open land and forest alternating, all of which is flooded in the rainy season. Tambarara is a place on the south-west slopes of the Gorongoza Mountains, at about 1000 ft. The mountains themselves, which rise to 5200 feet, were found to be practically inaccessible; they are situated a little north of the railway from Beira to Umtali and about halfway between the two places. Finally, the last place visited was Tete, a well-known spot on the Zambesi, where Dr. Peters did a great deal of collecting in the middle of the last century. Mr. Grant's work was chiefly done about twenty miles south of Tete, at the junction of the Luenya and Mazoe Rivers.

Mr. Grant's collection during these five years comprised 3527 skins, representing 591 species. In the Check-list which I compiled in 1905 I estimated the number of species and subspecies of South-African birds at 868, so that, although no sea-birds were collected, Mr. Grant was able to bring home examples of almost three-quarters of the total known number of South-African birds.

Taking the collection by localities, it may be divided as follows:—

Little Namaqualand	68 species,	370 examples.
Capetown district	48 ,,	157 ,,
Knysna district	81 ,,	283 ,,
Natal and Zululand	187 ,,	778 ,,
Transvaal	263 ,,	1167 ,,
Portuguese East Africa...	122 ,,	772 ,,

The new species are eight in number: six of these have been already described, by Sharpe, Grant and myself in the Bulletin of the B.O.C.; they are as follows:—*Pyrenestes granti* Sharpe, *Heteronyx ruddi*, *Cinnyris neergaardi*, *Apalis ruddi*, and *Sphenœacus transvaalensis* Grant, and *Apalis claudei* W. Scl.

Two additional subspecies, *Pratincola torquata orientalis* and *Cossypha caffra namaquensis*, are here described for the first time.

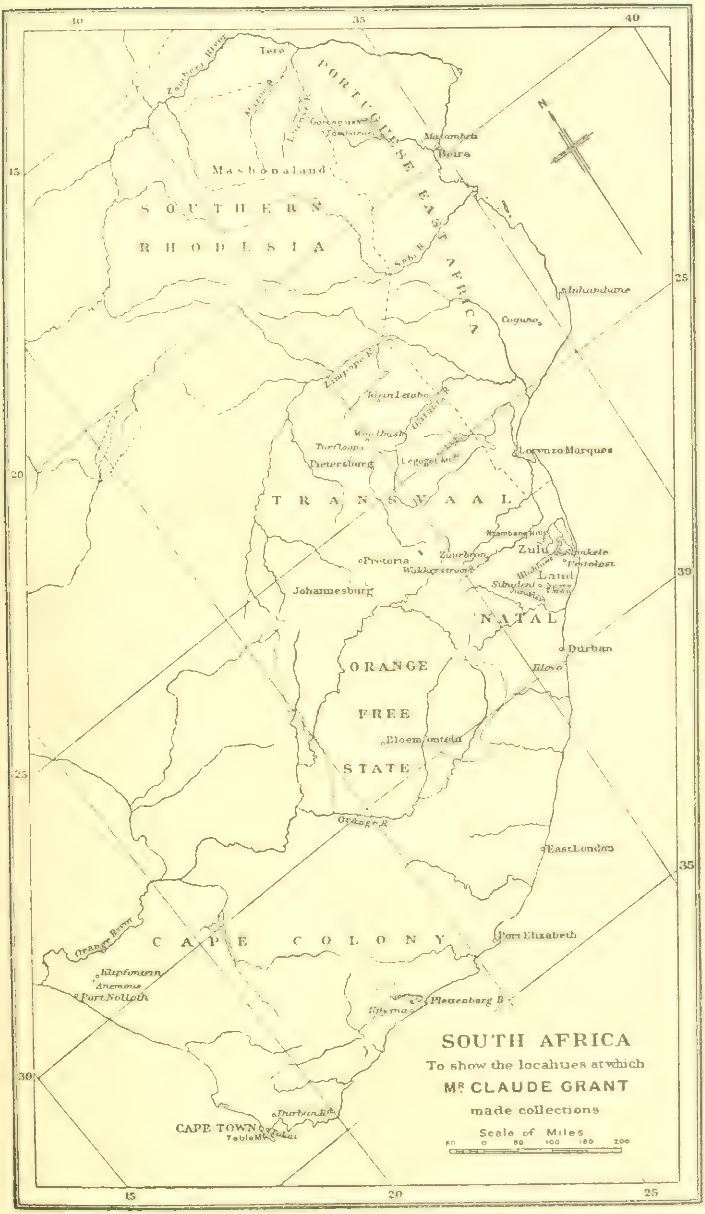
Fourteen species previously only known from East Africa or elsewhere have been added to the Avifauna of South Africa; some of these were also recorded by Grant in the aforesaid Bulletin. The following is a complete list of them:—*Pytelia afra*, *Quelea erythrops*, *Mirafra rufocinnamomea*, *Mirafra zombæ*, *Cinnyris verreauxi fischeri*, *Sigmodus scopifrons*, *Batis puella soror*, *Chætura böhmi*, *Merops superciliosus*, *Campothera malherbei fülleborni*, *Turacus reichenowi*, *Vinago wakefieldi*, *Chalcopelia afra* (as now restricted to the Blue-spotted Dove), and *Francolinus granti*.

In addition there are included examples of a number of exceedingly interesting and rare species previously unrepresented or very inadequately represented in the National Collection.

This is, without doubt, the most important and extensive single collection of South-African birds which has ever been made, and I may perhaps be allowed to congratulate Mr. Grant on the success of his efforts and Mr. Charles Rudd for his most generous subvention which made the expedition possible.

I have to thank Mr. Ogilvie-Grant for allowing me the

Text-fig. 8.


30
35
40
15
20
25
30
35
N
Tete
Zambezi River
PORTUGUESE EAST AFRICA
Mashonaland
SOUTHERN RHODESIA
Masambeta
Beira
Sabi R.
Inhambane
Coguno
Limpopo R.
Klein Letaba
Olifants R.
Woodbush
Pietersburg
Legogot Mt.
Lorenzo Marques
TRANSVAAL
Nyamband Hills
Zulu Land
Pretoria
Zuurbron
Wakkerstroom
Umfolosi
Sibudeni
Johannesburg
NATAL
Durban
Illovo
ORANGE FREE STATE
Bloemfontein
Orange R.
East London
Port Elizabeth
CAPE COLONY
Orange River
Klipfontein
Anenous
Port Nolloth
Plettenberg B.
Knysna
CAPE TOWN
Table Mt.
Durban Rd.
SOUTH AFRICA
To show the localities at which
Mr. CLAUDE GRANT
made collections
Scale of Miles
50 0 50 100 150 200
15
20
25

SKETCH-MAP OF PART OF SOUTH AFRICA.

privilege of working out this extensive collection and for his help and advice in so doing.

The classification and nomenclature follows almost exactly the "Check-list of South-African Birds," published by me in 1905 (Annals S. Afr. Mus. iii. pp. 303–387), which is founded on the four volumes of the 'Birds of South Africa,' by myself and Dr. Stark.

The numbers in front of the names of the birds are those in the above-mentioned Check-list. Where a species does not occur in the check-list a reference is given to Reichenow's 'Vögel Afrikas.'

In order to save space and reduce the size of this paper, the specimens of each species collected are arranged under the headings of **CC.**, **N.**, **Z.**, **Tv.**, and **P.**, standing for Cape Colony, Natal, Zululand, Transvaal, and Portuguese East Africa respectively. Only the month of capture is given, unless the bird is known to be a migrant, and the number of specimens from each locality is placed in brackets. All the localities will be found in the sketch-map (text-figure 8, p. 213). Mr. Claude Grant's field- and other notes are enclosed in square brackets to distinguish them from my own comments.

1. CORVULTUR ALBICOLLIS.

Z. Sibudeni, Dec. 16 (4); **P.** Tambarara, Mch. (1).

["Ikwaubaba" of Zulus.

The White-necked Raven was observed in almost every locality visited and is usually found in pairs. In the way of food nothing appears to come amiss to it. The call is a harsh croak, very similar to that of the European Raven, and the flight is strong and very powerful. This bird breeds in holes and ledges on krantzes, but I have not succeeded in taking the eggs.]

2. CORVUS SCAPULATUS.

Tv. Pietersburg, Mch. 2 (1); **Z.** Ntondweni, Aug. (1); Umfolosi, Sept. (1); **P.** Coguno, June (1).

["Bonte Kraai" of Colonists.

The Black-and-White Crow was seen in many localities visited, and was the commonest of the Crows in the Portuguese country. It is usually found in pairs and, like the Raven, feeds upon almost everything. I found it breeding at the Cape, the nest being placed high up in a gum-tree, but no eggs had been laid up to the time I left. The cry is harsh.]

3. CORVUS CAPENSIS.

CC. Klipfontein, Apl., May (5); **Tv.** Wakkerstroom, Mar., Apl. (12); **Z.** Umfolosi Station, July (1); Hluhluwe Stream, Aug. (1).

Four eggs taken at Port Nolloth, Aug. 12, 1903.

The Zululand Crows are on average slightly smaller than those from Namaqualand, and approach *C. capensis minor* from East and North-East Africa. The wing-measurements of the Namaqualand birds are all over 355 mm., while those of the Zululand birds are below it.

["Swart-kraai" of Colonists.

The Cape Crow was noted everywhere, except in the Portuguese country. It is usually seen in pairs, and in many ways reminds one of the European Rook. A nest containing four eggs was taken in Namaqualand in August; this was composed of sticks and placed on the top of a large bush. The female was put off, but she was too wild to secure.]

5. BUPHAGA ERYTHRORHYNCHA.

Tv. Legogot, May (2); Klein Letaba, Aug. (1); **Z.** Sibudeni, Oct. (1), Jususie Valley, Dec. (3).

["Echlala-nyati" of Zulus.

Natal and Zululand, the Eastern and North-Eastern Transvaal, and the Beira district of the Portuguese country are the localities in which I have usually seen the Ox-pecker. It is generally found in pairs or threes, and always in the company of cattle and horses, feeding on the ticks which infest these animals, often pecking deep holes in the hide in extracting the ticks and thereby frequently doing more harm than good. Its actions when settled are graceful and gliding, while it is able to cling to any part of the animal on which it is resting. The flight is undulating and the call is a hissing "zee."

When disturbed it will sometimes perch on the tops of trees, but more often flies clean away.

The soft parts are :—Irides blood-orange; eyelid lemon-coloured; bill sealing-wax red; legs and toes grey-brown.

N.B.—The iris is composed of two colours, the inner part being blood-orange, with a narrow outer ring of lemon-yellow.]

6. CREATOPHORA CARUNCULATA.

CC. Durban Rd., Sept. (10); **Tv.** Klein Letaba, Aug. (1).

Two of the males have quite bare heads and are doubtless very old birds; in the others the amount of bare skin and the development of the wattles varies a good deal and no two are exactly alike. The females shew no sign of wattles and have only the thin streaks and patches round the eyes bare.

[The Wattled Starling was noted from the Cape Peninsula, the North-Eastern Transvaal, and the Inhambane and Beira districts of the Portuguese country. It is always found in flocks, often of considerable size. In habits and flight it greatly resembles the European Starling.

The soft parts are :—

♂, *breeding*. Irides hazel; bill almost like ivory: bare skin behind eye greenish, rest of pale skin lemon-yellow; all the dark skin black.]

7. AMYDRUS MORIO.

CC. Tokai, Feb. (1); Table Mt., Jan. (1); Plettenberg Bay, Feb., Mch. (5); Knysna, Apl. (1); **Tv.** Wakkerstroom, Mch. (1); Zuurbron, May (3); Woodbush, June (3); Turfloop, Mch. (1); **Z.** Sibudeni, Oct. to Jan. (8).

["Esome" of Zulus. "Rooi-vlerk sprew" of Colonists. The Red-winged Starling frequents more or less mountainous country, and was noted from the Cape Peninsula, the Knysna district, Zululand, and the South-Eastern, Eastern, and North-Eastern Transvaal. It was observed both in pairs and small parties, more usually the former, and is rather wild and difficult to approach. The flight is swift and often high overhead, and the call is a whistle. As a rule, it sleeps and breeds on ledges in the more inaccessible positions in the mountains.

The soft parts are:—Irides dark brown; bill, legs and toes black.]

8. AMYDRUS CAFFER.

CC. Klipfontein, Apl. to June (9).

As compared with birds collected at Deelfontein (Sharpe, 'Ibis,' 1904, p. 366), the Namaqualand birds are rather shorter in the wing, averaging about 145 mm. against about 155.

I have not been able to find the Port Elizabeth example of this species mentioned by Reichenow as being in the British Museum. He distinguished it by its darker colour and larger size as var. *intensetincta*, and perhaps the Deelfontein birds may be referred to this race, as was done by Sharpe.

[The Pale Red-winged Starling was only found in Namaqualand, where it is quite plentiful. In appearance and habits it greatly resembles *A. morio*, except that in the winter season it congregates in much larger parties than that species does.

The soft parts are:—Irides bright yellow; bill, legs and toes black.]

9. SPREO BICOLOR.

Tv. Wakkerstroom, Mch. (8).

[Since the Central Cape Colony trip I have only noted this Starling on the high upland veld in Northern Zululand and Natal and the South-Eastern Transvaal. It is gregarious in habit and very noisy, and spends much of its time around herds of cattle, apparently feeding largely on ticks and flies that are attracted by those beasts.

The soft parts are:—Irides pale yellow; bill black, yellowish at base of lower mandible and gape; legs and toes black.]

10. Lamprotornis mevesi.

P. Tete, Aug., Sept. (6).

[Meves's Glossy Starling was only found in the Tete district, where it was very plentiful between the Mazoe and Luenya Rivers and the Zambesi. It is usually found in pairs and feeds largely upon wild fruit, berries, &c., for which it is often seen searching on the ground, where it presents much of the appearance of a small Magpie. The flight is strong, but not so fast as that of other Glossy Starlings, and the cry is loud and clear.

The soft parts are:—Irides yellow; bill and legs and toes black.]

15. Lamprocolius phœnicopterus bispecularis.

CC. Klipfontein, Apl., May (2); **Tv.** Woodbush, June (2); Legogot, May (1); **Z.** Jususie Valley; Umfolosi Station, Aug. (1).

All these birds should perhaps be referred to *L. p. bispecularis*, which only differs from the typical form by its smaller dimensions.

Measurements of the series in the British Museum shew that examples from Southern Cape Colony average about 140 mm. in wing-measurement; those from Natal and the Transvaal are slightly smaller, while those from German South-West Africa are smaller still. The Namaqualand examples in the present collection are both females, and the wings are only 115 mm., so they certainly should be referred to the smaller race.

["Ekweze" of Zulus.

This species was noted from Namaqualand, Zululand, and the Eastern and North-Eastern Transvaal. It is found in flocks, often of some numbers, and feeds principally upon the fruit and berries of indigenous plants. In the dry country like Namaqualand it was only found in the vicinity of water in bushy kloofs. The flight is swift and strong, like that of a true Starling, and the cry is loud and clear.

The soft parts are:—Irides bright orange-yellow; bill, legs and toes black.]

17. LAMPROCOLIUS SYCOBIUS.

Tv. Klein Letaba, Aug., Sept. (6); **P.** Tambarara, Apl. (2); Tete, Aug. (2).

The two examples from Tambarara in the Gorongoza Mts. are distinctly smaller than those from the Transvaal or Tete; the wings measure 113 against 125 to 135. The throat is green like the breast and not steely blue, and the purple patch on the ear-coverts is much smaller. As both the examples are females and one is a young bird, it seems unwise to make a new subspecies, but the evidence certainly seems to point to a distinct racial form.

["Kwesu" of Machangaan.

This species was only found in the North-Eastern Transvaal and the Gorongoza and Tete districts of the Portuguese country. I have always observed it in flocks of twenty and upwards, and it feeds principally upon fruit and berries, especially those of the "Mtuma" tree, the "Num-num," and "Caoutchouc." It has a loud cry and swift flight, and is not easily distinguishable from *L. phœnicopterus*.

The soft parts are:—Irides bright yellow; bill, legs and toes black.]

18. LAMPROCOLIUS MELANOGASTER.

N. Illovo, Nov. (5); **Z.** Sibudeni, Nov., Dec., Jan. (9); Ngoye Hills, Oct. (1); **P.** Masambeti, Nov. (1); Beira, Febr. (1).

["Ekweze" of Zulus.

The Black-billed Glossy Starling was found in Natal and Zululand and the Beira and Gorongoza districts of the Portuguese country. It frequents more or less forested country, and often occurs in flocks of several hundreds; like the other members of the genus, it feeds principally upon fruit and has a clear call-note.

The soft parts are:—

Adult. Irides bright yellow; bill, legs and toes black.

Juv. Irides hazel; bill, legs and toes black.]

19. CINNYRICINCLUS VERREAUXI.

P. Tambarara, Mch., Apl. (6); Beira, Nov., Jan., Febr. (5); Masambeti, Nov. (4).

[Young males in first plumage are similar to the adult female, but can usually be distinguished by the under tail-coverts being pure white and with only one or two spots. Females in their first plumage can only be distinguished from adult females by the broader and more sandy edges of the feathers of the mantle and wings.

Verreaux's Glossy Starling was only found in the Beira and Gorongoza districts of the Portuguese country. The old birds were noticed in pairs and the young ones in flocks of twenty or more. Like the other Glossy Starlings it lives principally on wild fruit and berries. It has a strong, swift flight and the call is clear and somewhat loud, but very different from that of other Glossy Starlings. It breeds as a rule in the hollow of a decayed tree, but although I found several occupied sites none contained eggs.

The soft parts are:—Irides pale yellow; bill and legs and toes black. In the young bird the gape is yellowish.]

20. ORIOLUS GALBULA.

Tv. Wakkerstroom, March 5 (1).

[The single specimen of this Oriole seen and secured was solitary, and frequented the tall gum-trees bordering some farm-lands.

The soft parts are:—Irides red; bill dark flesh-coloured; legs and toes slate-coloured.]

21. ORIOLUS NOTATUS.

P. Tambarara, March 12 (1).

[A small party of this species of about four to six individuals, one of which was secured, were seen in the tops of some tall teak trees in the Gorongoza forest. The call was a whistle, and until I picked the specimen up I took it to be *O. larvatus*.]

22. ORIOLUS LARVATUS.

CC. Knysna, Dec., Jan. (5); **Tv.** Woodbush, May (1); Legogot, May (3); **Z.** Sibudeni, Jan. (2); Ngoye Hills, Sept., Oct. (4); **P.** Coguno, Aug. (2); Masambeti, Oct. (1).

[The Black-headed Oriole was found in all forested localities from the Knysna, eastwards and northwards to the Zambesi. It is essentially a bird of the woods and forests, and is wild and wary, keeping continually on the move and uttering incessantly a loud clear whistle. It goes both singly and in pairs, and usually keeps to the tops of the larger trees.

The soft parts are :—

Adult. Irides rich red ; bill dark flesh-coloured ; legs and toes slate-coloured.

Immature. Irides brown ; bill black ; legs and toes slate-coloured.]

23. Hyphantornis nigriceps.

P. Beira, Dec. (4).

One adult male is typical ; another sexed as male, which is as large as the male, closely resembles the female and is probably a bird of the year. There is very little white on the lower side of the female or young male.

[The Black-headed Weaver was only found in the Beira district, where it was not uncommon. It was mostly seen in pairs and was breeding, although small parties of non-breeding birds were noticed frequenting the native gardens. The nests were hung in bamboo brakes or in the thin branches of trees in damp situations, but unfortunately not one that I examined contained eggs or young. In call and song this species resembles the other Yellow Weavers.

The soft parts are :—

♂, *breeding.* Irides rich orange ; bill black ; legs and toes horn-brown.

♀. Irides yellow ; bill, legs and toes horn-brown.]

26. Hyphantornis spilonotus.

Tv. Klein Letaba, July, Sept. (2) ; Woodbush, Dec., Jan. (10) : **Z.** Jususie Valley, Dec. (2) ; Ngoye Hills, Oct. (3) ; **P.** Coguno, Aug. (6).

The series taken at Coguno in August is most interesting ; it shews the males gradually assuming the bright breeding plumage. The youngest of these is very like the female but ashy grey below; a few bright yellow feathers are beginning to appear; another example shews small black feathers on the throat pushing up through the pale yellow, while the yellow-edged black feathers on the back which form the "spotted back" of the adult are beginning to appear. One killed on August 31st is in full breeding plumage. Young birds of both sexes have only the throat pale yellow, the rest of the under parts dull white. I cannot distinguish the females of *H. nigriceps* and *H. spilonotus* with certainty, except that the lower mandible of the former appears to be a good deal paler.

["Umdwesa" of Zulus.

The Spotted-backed Weaver was noted from Zululand, the North-Eastern Transvaal, and the Inhambane district of Portuguese East Africa. It is usually seen throughout the year in flocks, often of considerable numbers, which frequent cultivated lands. It is a noisy bird, keeping up a continual chatter or uttering a rasping sort of "song". It was breeding in numbers at Woodbush, fixing the nest at the tip of an overhanging branch of a tree usually over water, often in quite inaccessible situations; unfortunately none of the nests that I was able to reach contained eggs.

The soft parts are:—

♂. Irides rich orange-red; bill black; legs and toes horn-brown.

♀. Irides yellow; bill, legs and toes horn-coloured.]

HYPHANTORNIS TAHATALI.

Hyphantornis shelleyi Sharpe, Stark & Sclater, Bds. S. Afr. i. p. 62.

Ploceus auricapillus Sw., Reichenow, Vög. Afr. iii. p. 79.

Tv. Klein Letaba, Aug., Sept. (4); **P.** Tete, Sept. (1).

The type of *Ploceus tahatali*, renamed and figured subsequently by Sir Andrew Smith in the 'Illustrations of the Zoology of South Africa,' Aves, pl. 103, is preserved in the British Museum; it was procured in winter at Kurrichane, and is without doubt the same as the bird commonly known as *H. shelleyi*.

The curious pink tinge on the under parts, which I have also observed in birds collected by Dr. Stöhr north of the Zambesi, is, according to Mr. Grant, due to the stains of fruit juice on which the bird feeds. There is a very similar example in the British Museum from Colesberg, Cape Colony, collected many years ago by Ortlepp. This is referred to *H. cabanisi* by Dr. Finsch, but I doubt if the true *H. cabanisi* goes so far south. But the females and winter males of this group are notoriously difficult to distinguish.

[Shelley's Weaver was only found in the North-Eastern Transvaal and the Tete district of the Portuguese country. It was quite common in both localities, and frequented the lands in fair numbers, feeding on the grain. It also feeds to some extent on wild fruit, and the feathers of the under parts are often stained with the juice, especially with that of the "Num-num." In habits and call it resembles the other members of the genus.

The soft parts are:—Irides pale yellow; bill, legs and toes horn-brown.]

29. HYPHANTORNIS XANTHOPS.

Hyphantornis jamesoni Stark & Sclater, Bds. S. Afr. i. p. 65.

Tv. Woodbush, Dec. (2) : **P.** Coguno, June (1); Tambarara, Apl. (1).

An adult male (Woodbush, Dec. 29) exactly matches the type of *H. xanthops* from Angola and other examples from Nyasaland. *H. jamesoni*, described from a specimen taken by J. S. Jameson on the Umvuli River, differs from *H. xanthops* in having only the forehead instead of the whole crown golden. It was shot in September, and is probably a bird which has hardly yet assumed its full breeding dress.

30. SITAGRA OCULARIA.

N. Illovo, Nov. (3); **Z.** Jususie Valley, Dec. (1); Umfolosi Station, Sept. (1); **P.** Coguno, July (1); Beira, Nov. (3); Tambarara, Apl. (2).

One nest with two young (in spirit), taken at Illovo on November 19th.

Two young males from Tambarara shew little trace of the characteristic black eye-streak.

[Smith's Weaver was noted from Natal and Zululand, the Eastern Transvaal, and the Inhambane, Beira and Gorongoza districts of the Portuguese country. It is found in pairs or family parties, never in flocks; it frequents low bushes, trees and thick undergrowth, feeding principally upon insects. The call is a clear low whistle, and this is the only note that I have heard it utter.

The nest is hung from the end of a fine twig or bamboo at the edge of a wood or in the depths of the forests, not necessarily near water. It is composed of fine grass and is globular in shape, with a long pendent tubular entrance.

The soft parts are:—

Ad. Irides yellow; bill black; legs and toes slate-coloured.

Juv. Irides very pale; bill yellow-horn-coloured; legs and toes paler slate-coloured.]

32. Sitagra capensis.

CC. Durban Rd., Mch., Sept. (4); Klipfontein, April, May, June, July (10); Plettenberg Bay, Mch. (2).

[The Cape Weaver was only found in Namaqualand, the Cape Peninsula, and the Knysna district. It often occurs in flocks of great numbers, and frequents indiscriminately bush-filled kloofs, borders of woods and cultivated lands, feeding to a large extent on wild fruit and berries. In call and general habits it greatly resembles *Hyphantornis velatus*.

The soft parts are:—

♂ *breeding*. Irides yellow; bill black; legs and toes horn-brown.

♂ *winter* & ♀. Irides pale brown; bill horn-coloured.]

33. Sitagra capensis olivacea.

Z. Umfolosi River, July (1); **Tv.** Woodbush, Dec., Jan. (3).

[This species was only found in Zululand and the North-Eastern Transvaal, where it frequented reedy rivers and streams in company with *Hyphantornis spilonotus*. In habits it resembles the true *S. capensis*.]

34. SYCOBROTUS GREGALIS.

N. Illovo, Nov. (3); **Z.** Sibudeni, Nov., Febr. (2); Ngoye Hills, Sept., Oct. (3).

The three examples from the Ngoye Hills have traces of white tips to the feathers of the forehead, and are intermediate in character between *S. gregalis* and *S. stictifrons*, though slightly nearer the former.

[Natal and Zululand are the only two countries in which I have noted this Weaver. It is usually found in pairs and frequents wooded and forested country, where its well-known note at once betrays its presence. It spends the greater part of its time climbing among the denser foliage of the trees, and apparently feeds largely upon insects.

The nest is hung from an overhanging creeper or bamboo, and has a long pendent tubular entrance, but all that I have seen have been in course of construction and have been without eggs.

In Lower Natal this species is known by the name of the "Musical-box" bird, apparently because its call sounds somewhat like that instrument being wound up.

The soft parts are:—Irides dark horn-coloured; bill blue-slate-coloured; legs and toes fleshy brown.]

35. SYCOBROTUS STICTIFRONS.

P. Masambeti, Nov. (2).

[This species was found in the Beira district, where it was not plentiful. In appearance and habits it exactly resembles *S. bicolor*.]

36. ANAPLECTES RUBRICEPS.

Tv. Klein Letaba, July (1 ♀).

[I have only seen this species in the low country of the North-Eastern Transvaal. In appearance and habits it resembles *H. shelleyi*, and I have probably overlooked it elsewhere owing to its resemblance to many of the Yellow Weavers.

The soft parts are:—Irides yellowish; bill yellow; legs and toes brown-horn-coloured.]

40. Amblyospiza albifrons.

N. Illovo, Nov. (8).

[This species was noted from Natal, where it was plentiful, and the Inhambane and Gorongoza districts of the Portuguese country, where only two or three individuals were seen. It frequents well-wooded localities, usually, I think, in pairs, and feeds largely on wild fruit and berries.

The soft parts are :—

♂ *ad.* Irides hazel ; bill slate-coloured ; legs and toes slaty brown.

♂ *im.* & ♀ *ad.* Bill yellowish horn-coloured ; legs and toes paler.]

43. Ploceipasser pectoralis.

P. Tete, Aug. (1).

[This Weaver was only noticed near Tete, on both the north and south banks of the Zambesi, and appeared to be very local, as no specimens were seen even such a little way to the south as my camp at the junction of the Mazoe and Luenya Rivers. I have always seen it in flocks of a dozen to twenty individuals ; it spends much of its time on the ground, flying up and perching on the lower branches of the trees on being disturbed. It is found most commonly around native kraals, and probably to a large extent feeds on the native crops in their season. It has a loud call-note constantly repeated, and the flight is Weaver-like.

The soft parts are :—Irides hazel ; bill black ; legs and toes sooty brown.]

44. Sporopipes squamifrons.

Tv. Pietersburg, Febr. (7).

[This striking species was only found in the open dry country near Pietersburg, where it was very plentiful and occurred in flocks, spending much of its time on the ground in search of grass-seeds, and seeming partial to the vicinity of habitations. It is a sociable species and many nests were found ; these were placed in the numerous thorn-bushes, often several in one bush. They were composed roughly of long grass, the flowering ends projecting outwards and forming a sort of porch to the entrance. The breeding season was apparently just over at the time of my visit, as only one nest still contained young. This is a tame and confiding little bird and easily secured.

The soft parts are:—Irides rich hazel; bill, lower mandible pearly white, upper pink; legs and toes fleshy. In the young the bill has black markings.]

PYRENESTES GRANTI.

Sharpe, Bull. B. O. C. xxi. 1908, p. 67.

P. Beira, Dec. 27. 1906 (1 ♂, type of the species). Masambeti, Nov. 7 (♂ juv.).

This species closely resembles *P. minor* (Shelley, Ibis, 1894, p. 20) from Nyasaland. It differs only in the greater extent of the red of the head, which reaches back over the whole crown, well behind the eyes and to the upper breast. It seems probable that the Beira bird is in full breeding plumage, while the only two examples of *P. minor* are in winter plumage; they were taken in August.

The second specimen from Masambeti has only a small spot of red near the gape and on the chin. It is obviously a young bird.

[This Weaver was only twice seen; on the second occasion a pair were together, but what was probably the female slipped away in the undergrowth. It frequents densely wooded localities, spending all its time amongst the lower branches and undergrowth, and greatly resembles in all its actions *Lagonosticta niveoguttata*. The call is a loud "zit."

The soft parts are:—Irides dark claret-coloured; bill black; legs and toes horny brown.]

45. PYTELIA MELBA.

Tv. Klein Letaba, Aug. (1); Turfloop (1).

[I have only found this little Finch in the North-Eastern Transvaal, but as it usually inhabits thick bush I have probably overlooked it elsewhere. On both the occasions when I secured specimens a pair were together. I have not heard its call-note, and it appears to spend its time among the lower parts of the thickets searching for food.

The soft parts are :—

♂. Irides rich brown ; bill rich red, culmen dusky ; legs and toes pale brown.

♀. Irides hazel ; bill brown tinged with red ; legs and toes pale brown.]

Pytelia afra.

Reichnw. Vög. Afr. iii. p. 162 ; C. Grant, Bull. B. O. C. xxi. 1908, p. 66.

P. Tambarara, June (1).

This is the first example of this species taken south of the Zambesi ; it is not uncommon in Nyasaland and Angola.

[Only one specimen of this species was seen, and this was shot in thick forest at the edge of a cut road. I at first mistook it for *P. melba,* to which species it bears a strong resemblance in life.

The soft parts are :—Irides rich brown ; bill dark red ; legs and toes pale brown.]

47. Lagonosticta rubricata.

Tv. Legogot, May (1) ; **Z.** Ngoye Hills, Oct. (1), Jususie Valley, Nov., Dec. (3).

[“Neubu” of Zulus. This little Waxbill was found only in Zululand and the Eastern Transvaal. It goes about in small parties and frequents footpaths and clearings near bush, feeding principally on seeds of various grasses. When feeding it constantly utters a low “zeep,” and is tame and fearless.

The soft parts are :—Irides hazel ; bill slate-coloured ; legs and toes dark brown.]

48. Lagonosticta jamesoni.

Tv. Klein Letaba, Aug., Sept. (5).

Young birds are olive-brown above with a little patch of pink on the lores only, below they are paler olive-brown, but without any pink wash at first.

[Jameson's Waxbill was only taken in the “low veld” of the North-Eastern Transvaal, where it occurred in small flocks. In action, call, and habits it resembles *L. rubricata.*

The soft parts are:—Irides hazel; bill slate-coloured; legs and toes dark brown.]

48 *a*. LAGONOSTICTA HÆMATOCEPHALA.

O. Neumann, Orn. Monatsb. 1907, p. 168.

P. Beira, Dec. (2); Tambarara, Mch., July (2).

Neumann has separated the East-African and Nyasaland form of this species from that occurring in Bogosland under the above name, retaining Heuglin's *L. rhodopareia* for the Bogosland form alone.

It had already been recorded under Heuglin's name from the Uremma River near Beira by myself (Ann. S. Afr. Mus. iii. 1905, p. 368).

[This little Waxbill was only found in the Beira and Gorongoza districts of the Portuguese country. It occurs in small flocks on the outskirts and in the paths and roads of the woods and forests, spending much time on the ground. In actions and habits it resembles *L. rubricata*.

The soft parts are:—Irides hazel; bill slate-coloured; legs and toes dark brown.]

49. LAGONOSTICTA BRUNNEICEPS RENDALLI.

P. Tete, Sept. (3).

The type of *L. brunneiceps* is from Maragaz in Abyssinia, that of *L. rendalli* from the Shire River. The type of the former is by no means typical, as it is quite as brown on the back as a Transvaal example, though as a rule specimens from North-East and Central Africa have more red than those from the Zambesi Valley and South Africa. The southern form may perhaps be retained as *L. brunneiceps rendalli*.

[This species was found only in the Tete district of Portuguese East Africa, where it was uncommon and occurred in small flocks in the native lands. In action and habits it resembles the other Ruddy Waxbills, being like them tame and easily procured.

The soft parts are:—Irides brown; bill vinous red, with the culmen, cutting-edge of upper mandible, and ridge of lower black; legs and toes pale horn-brown.]

50. HYPARGUS NIVEOGUTTATUS.

C. Grant, Bull. B. O. C. xxi. 1908, p. 66.

P. Tambarara, June (1); Beira, Dec. (2).

The females of this and the following species are described by Grant in his note in the Bulletin.

[Peters' Spotted Finch was found only in the Beira and Gorongoza districts of the Portuguese country. It occurred in pairs or small parties in the thickets and the depths of the forests, usually frequenting roads and footpaths cut through the bush. It spends much of its time on the ground, feeding apparently on seeds of various kinds. It is a tame and somewhat inquisitive little bird. The usual call is not unlike that of other Waxbills, and the alarm-note is a harsh "chee."

The soft parts are:—Irides black; eyelid bluish; bill blue-slate-coloured; legs and toes slaty.]

51. LAGONOSTICTA MARGARITATA.

P. Coguno, Aug. (2).

[This long-lost Spotted Finch was rediscovered in the Inhambane district, where, curiously enough, no signs were seen of *L. niveoguttata*.

It was previously known only from Strickland's specimen purchased in Capetown, which was said to have come from Madagascar, and from examples said by Verreaux to have been procured at Capetown and figured by Des Murs.

It was observed in small parties frequenting the roads cut in the bush, and spent much of its time on the ground like other Waxbills. In fact, in all its actions it resembles *L. niveoguttata*.

The soft parts are:—Irides black; eyelid bluish; bill blue-slate-coloured; legs and toes pale slate-coloured.]

52. ESTRILDA ASTRILDA.

CC. Knysna, Apl. (1); **Tv.** Wakkerstroom, Mch. (1); Woodbush, Jan. (3); Klein Letaba, Sept. (3); Pietersburg, Mch. (2); Legogot, Apl., May (2); **Z.** Jususie Valley, Dec. (1); Umfolosi Station, July (10).

[This Common Waxbill was noted from Namaqualand (where a single small party was observed in one of the larger mountain ranges), the Knysna district, Zululand, and the South-Eastern, Eastern, and North-Eastern Transvaal. It is found in flocks in the winter and in pairs and flocks in the breeding-season, and spends the greater part of its time on the ground, in native lands, footpaths, and cut roads, feeding largely upon grass-seeds.

The soft parts are:—

Ad. Irides red; bill coral: legs and toes very dark horn-coloured.

Juv. Irides pale red; bill black, bluish white at gape; legs and toes horny.]

52 *a.* ESTRILDA ASTRILDA CAVENDISHI.

P. Masambeti, Oct. (2); Beira, Dec. (1).

These Rooibeckjes are distinctly smaller and darker than those from the Cape and Transvaal, and agree very well with Sharpe's type of *Estrilda cavendishi* from the Cheringoma district of Mozambique.

54. ESTRILDA INCANA.

N. Illovo, Nov. (1); **P.** Coguno, Aug. (1); Beira, Feb. (2).

["Simbasili" of Ntebis.

The Grey Waxbill was found in Natal and the Inhambane and Beira districts of the Portuguese country. It is an uncommon species, and I have only observed a pair in each locality in which I have found it. It has much the habits of the other Waxbills.

The pair at Beira were breeding, but unfortunately I did not discover the half-finished nest till after I had shot them. It was placed in the upper branches of a bush on the banks of a wooded water-course, and was more or less dome-shaped and composed of bents.

The soft parts are:—Irides red or crimson; bill slaty-blue or pale slate-coloured, darker at tip; legs and toes black or very dark slate-coloured.]

55. ESTRILDA ANGOLENSIS.

Tv. Klein Letaba, July, Aug. (11); **P.** Tete, Sept. (1).

[This little Waxbill was only noted from the low country of the North-Eastern Transvaal and the Inhambane and Tete districts of the Portuguese country. It was somewhat local, being found most commonly in the "bush veld" of the N.E. Transvaal, where it kept along the rivers and near the water-holes, seldom being seen in the dry waterless belts. It was observed in large flocks, which, like the other Waxbills, spent much of their time on the ground, searching for food and drinking towards the late afternoon.

The soft parts are:—Irides russet-red; bill lilac-blue, tip much darker; legs and toes pale brown.]

56. ESTRILDA GRANATINA.

Tv. Klein Letaba, July (1).

[This striking Waxbill was only once observed, when a small flock was seen feeding on the ground near my camp in the "low veld" of the N.E. Transvaal and one specimen was shot. It appears to have much the habits of the other Waxbills.

The soft parts are:—Irides reddish; bill red; legs and toes almost black.]

57. ESTRILDA CLARKII.

Z. Sibudeni, Nov. (2); **Tv.** Woodbush, Dec. (2); Pietersburg, Feb., Mch. (2).

Two nests, one with five and one with three eggs, taken at Pietersburg, Feb. 22nd.

The nest is somewhat retort-shaped and made of coarse grass or strips of reeds woven together; it is lined with finer material and cottony down. It was placed in the long grass of a "vlei." The eggs are pure white, oval, and without gloss. They measure 14 × 11 mm.

["Miyani" of Zulus.

This species was only noted from Zululand, the North-Eastern Transvaal, and the Beira district of the Portuguese country, where it occurred in flocks, often of considerable numbers, and frequented vleis and the borders of rivers and streams, even being seen feeding in the sand and mud along the water's edge.

In the N.E. Transvaal near Pietersburg it was found breeding, several nests being placed in close proximity on the tops of some tall rushes bordering a stream. Only two of these contained eggs, the female being shot in one case.

The soft parts are:—Irides reddish; bill crimson, culmen and gonys blackish; legs and toes fleshy brown.]

58. ESTRILDA DUFRESNII.

CC. Knysna, Dec., Jan. (4); **Tv.** Woodbush, Nov., Jan. (9).

[Dufresne's Waxbill occurs in small flocks of about half a dozen, and frequents roads and clearings in the forested localities, spending much of its time on the ground and feeding principally upon grass-seeds. Like the other Waxbills, it is constantly calling when feeding, and if disturbed seldom flies far, often to the lower branches of some tree or bush, whence it quickly descends again to the ground.

The soft parts are:—Irides bright red; bill, upper mandible black, lower red; legs and toes blackish brown.]

59. ORTYGOSPIZA POLYZONA.

Z. Sibudeni, Oct., Nov. (4).

["Nceni" of Zulus.

This Weaver-Finch was only found in Zululand, where it occurred in small flocks on the open hill-sides and fed principally upon grass-seeds.

The soft parts are:—Irides hazel; bill dark red; legs and toes lightish brown.]

60. SPERMESTES FRINGILLOIDES.

P. Beira, Jan. (1); Tambarara, July (1).

["Simbasili" of Ntebis.

This Weaver-Finch was only found in the Portuguese country. It occurs in small flocks in the native lands, where it feeds on grain, especially millet, and the seeds of various wild plants and grasses. It is a lively and dainty little bird, and spends the greater part of its time on the ground.

The soft parts are:—Irides hazel; bill, legs and toes dark slate-coloured.]

61. SPERMESTES SCUTATUS.

N. Illovo, Nov. (1); **Tv.** Woodbush, June (1); **P.** Coguno, Aug. (1); Masambeti, Oct. (3); Beira, Nov. (5); Tambarara, Apl. (1).

[The Hooded Weaver-Finch was noted from Natal, the North-Eastern Transvaal, and the Inhambane, Beira, and Gorongoza districts of the Portuguese country. It often occurs in flocks of twenty or more individuals, and frequents both grass-covered slopes and native lands, feeding largely upon grass-seeds. On being disturbed it flies off with a sharp little alarm-note, never, however, going far and often perching on the twigs of the bushes and soon descending again to the ground.

The soft parts are:—Irides hazel; bill, upper mandible very dark slate-coloured, lower paler; legs and toes dark slate-coloured.]

62. SPERMESTES NIGRICEPS.

N. Illovo, Nov. (1); **P.** Coguno, June (1); Tambarara, June (1).

[Found only in Natal and the Inhambane and Gorongoza districts of the Portuguese country. On the whole, it is a rather uncommon species and probably very local. It occurs in small flocks like *S. scutatus*, and in habits and actions resembles that species.

The soft parts are:—Irides hazel; bill slate-coloured; legs and toes black-brown.]

65. QUELEA QUELEA.

Tv. Woodbush, Dec. (9); **P.** Tambarara, Mch., May (3); Tete, Aug. (1).

The series from Woodbush is very interesting, as all the birds were collected within a few days of each other: five are adult and presumably breeding males: of these two have crimson on the crown and chest, one has buff on the crown and crimson on the chest, and two have no crimson. Two young males are just getting traces of the black face and crimson on the crown and chest. The two females are typical.

[This Weaver-Finch was only found in the N.E. Transvaal and the Gorongoza and Tete districts of the Portuguese country. I have always seen it in flocks, often of considerable size, frequenting cultivated land in company with other Weavers, and doing no inconsiderable damage to the crops of grain, especially oats and native millet. It is a noisy bird, and after being shot at becomes wild and wary.

The soft parts are:—

Ad. Irides hazel; bill red; legs and toes fleshy.

Juv. Bill paler and duller; legs and toes horny brown.]

QUELEA ERYTHROPS.

Reichnw. Vög. Afr. iii. p. 111.

P. Beira, Dec. (11).

This species is new to South Africa. It has not been previously taken south of Mtoni in 6° 30′ S. in German East Africa near Tanganyika. The type was from St. Thomas Island. The present examples match West African birds in the British Museum collection very well. I find that it has lately been recorded from Pondoland by Gunning and Haagner in their recently published 'Check-list of South African Birds' on p. 80.

[The Red-headed Weaver was only found in the Beira district, where it occurred in considerable flocks for about a fortnight, and was undoubtedly on migration. It frequented the vleis, where it fed on the seeds of the various grasses and rushes. It was continually chattering when feeding or on the wing, and was by no means wild.

The soft parts are:—

♂ *ad.* Irides hazel; bill dark horn-brown, somewhat paler at base of lower mandible; legs and toes fleshy brown.

♀ *ad.* Bill, upper mandible pale horn-brown, lower yellowish brown; legs and toes paler than the male.

♂ *imm.* Intermediate in colour between ad. ♂ & ♀, and varying with advancing age.]

67 *a*. PYROMELANA ORYX SUNDEVALLI.

Tv. Woodbush, Dec., Jan. (5); Pietersburg, Feb. (2).

Six nests, four with four eggs and two with three eggs, taken on February 21st, and two nests, one with four eggs and one with three eggs, taken in March, all at Pietersburg.

The wings of the males measure between 166 and 168 mm., and those of the Woodbush females about 164, thus clearly bringing these examples into the smaller and more northern subspecies.

[The Red Bishop Bird frequents more or less open country along reedy streams and rivers, and feeds largely upon grain and various seeds, doing considerable damage to crops of oats and native millet. It was found breeding plentifully at Woodbush and around Pietersburg, generally placing the nest among the upright stems of reeds over water; the full clutch apparently was four in number. At all times it is a noisy bird, continually chattering. In the breeding-season the females appear to be rather retiring in habits, and unless waited for cannot always be secured.

The soft parts are:—

♂. Irides hazel; bill black; legs and toes fleshy brown.

♀. Bill fleshy brown; legs and toes paler than in male.]

68. Pyromelana taha.

Tv. Pietersburg, Feb. (3); **P.** Tete, Aug. (1 ♀).

[I only noticed this little Weaver near Pietersburg, where it was not uncommon and frequented the reedy streams in company with *P. oryx* and *P. capensis*. In habits it much resembles *P. capensis*, spreading the soft feathers of the rump in flight like that species.

The soft parts are:—Irides hazel; bill black; legs and toes pale brown.]

69. Pyromelana capensis.

CC. Table Mt., Feb. (1); Durban Rd., Sept. (1); Knysna, Apl. (5); Plettenberg Bay, Mch. (3).

["Kaffir-fink" of Colonists.

The Black-and-Yellow Weaver was only found in the Cape Peninsula and the Knysna district, it being replaced further east and north by *P. c. approximans*. It usually frequents the borders of rivers and streams, although in the non-breeding-season it resorts to cultivated lands in small parties in company with other Weavers. It has a harsh cry, and the flight is swift and straight. The male in the breeding-season indulges in a gliding-downward flight with rapidly quivering wings and the rump-feathers spread out on each side.

The soft parts are:—

♂, *breeding.* Irides hazel; bill black, greater half of lower mandible towards tip pearly; legs and toes darkish brown.

♂, *non-breeding, and* ♀. Bill horn-coloured; legs and toes paler brown.]

70. PYROMELANA CAPENSIS APPROXIMANS.

Z. Sibudeni, Nov., Oct., Jan. (5): **Tv.** Wakkerstroom, Apl. (1).

This is the eastern form of *P. capensis,* and only differs in its smaller size; it extends into the Southern Transvaal, but is replaced in the Zoutpansberg district and in Rhodesia by *P. xanthomelana,* which can be very easily distinguished by the absence of the buff edging on the inner webs of the quills.

71. PYROMELANA XANTHOMELANA.

Tv. Woodbush, Nov., May (6); **P.** Beira, Nov., Jan. (5); Masambeti, Nov. (2).

["Maubi" of Zulus. "Kwe" of Ntebis.

The smaller Black-and-Yellow and the Black-thighed Weaver-birds were observed in Natal and Zululand, the South-Eastern and North-Eastern Transvaal, and the Beira district of Portuguese East Africa. In general habits and call they resemble *P. capensis.*

The soft parts are:—

♀ & ♂, *in non-breeding-dress.* Irides hazel; bill horn-coloured; legs and toes horn-brown.

♂, *in breeding-dress.* Upper mandible black, lower horny to black as the season advances; legs and toes horn-brown or dark brown.]

72. UROBRACHYA AXILLARIS.

Z. Jususie Valley, Dec. (7 ♂, 1 ♀); Umfolosi Station, Sept. (1); Ngoye Hills, Oct. (1).

["Maubi" of Zulus.

The Red-shouldered Widow-bird was noted from Natal and Zululand, the North-Eastern Transvaal, and the Beira district of the Portuguese country. It frequents extensive vleis and low-lying plains clothed with luxuriant grass, and is usually observed in flocks comprising a male or two and numbers of females. The flight is floppy and somewhat erratic. It feeds principally upon insects and grass-seeds.

The soft parts are:—

♂, in winter, and ad. ♀. Irides hazel; bill, legs and toes horn-brown.

♂ breeding. Bill pale slate-coloured; legs and toes very dark slaty.]

74. PENTHETRIA ALBONOTATA.

Tv. Klein Letaba, Sept. (1 ♂, 1 ♀).

There is no female example of this somewhat scarce species in the British Museum. The males of this group are always more conspicuous and bold, while the females are apt to hide in the long grass and are less often collected.

[This species was only found in the low country of the North-Eastern Transvaal, where it was by no means common. In general habits it resembles *C. ardens.*]

75. COLIUSPASSER PROGNE.

N. Durban, Nov. (1); **Z.** Umfolosi Station, July (1); **Tv.** Wakkerstroom, Mch., Apl. (5); Pietersburg, Feb. (10).

Of the Wakkerstroom examples one is a female, one a male in full breeding-plumage, and three have already got their winter dress. The breeding male is dated March 4, the others March 25 and April 18.

Of the Pietersburg specimens, all collected in February, seven are males in breeding-plumage, one is a female, and two are young males, so that, although the nesting-season is in November or December, the males do not seem to have lost their breeding-dress by March.

Mr. Grant states in his notes that he saw examples of this species near Beira, but Sheppard (Journ. S.A. Orn. Union, v. p. 24) does not include it in his list, and it is said not to occur north of the Transvaal. There are certainly no specimens of it in the British Museum, until we get as far north as British East Africa, where the longer-tailed *C. delamerei* replaces it.

[" Sakka-bulla " of Zulus.

The Long-tailed Widow-bird was noted from Natal and Zululand, the South-Eastern and North-Eastern Transvaal, and the Beira district of Portuguese East Africa. It, as a rule, frequents flat and extensive vleis, where the grass is both long and rank, and is usually found in flocks comprising one or two males and numbers of females. It is somewhat wary and cannot always be approached within gunshot. The ordinary flight is floppy and erratic, and the males, when shewing off, fly with the body held almost perpendicularly, with the tail directed downward and somewhat spread, the wings being alternately opened and closed by a regular movement. In wet weather males in breeding-plumage are unable to fly, and many are caught by natives and their tail-feathers extracted; these birds present a comical and shorn appearance when afterwards seen on the wing.

The soft parts are :—

♂, *summer*. Irides hazel : bill pearly-slate-coloured : legs and toes very dark brown.

♂, *winter, and* ♀. Bill horn-coloured ; legs and toes paler.]

76. COLIUSPASSER ARDENS.

Z. Sibudeni, Oct. (2) ; Jususie Valley, Nov., Dec. (2) ; **Tv.** Wakkerstroom, Mch. (1) ; Woodbush, Dec. (10) ; **P.** Tambarara, Mch., May (4).

[♂, " Jojo " ; ♀, " Ntaga " of Zulus.

The Red-collared Widow-bird was noted from Natal and Zululand, the South-Eastern and North-Eastern Transvaal, and the Beira and Gorongoza districts of the Portuguese country. It frequents long grass and bushes in the vicinity of native lands, often occurring in flocks of considerable numbers, which do no inconsiderable amount of damage to crops of millet and oats. The flight is straight and rather fast, even with males in breeding-dress. I did not discover a nest. Apparently the breeding-dress is not assumed till the second summer, as a male shot in December is in full winter dress, and another shot in March was in worn plumage and had evidently passed through the breeding-season in a particoloured dress.

The soft parts are:—

♂, *in summer.* Irides hazel; bill and legs and toes black.

♂, *in winter, and ad.* ♀. Bill, legs and toes horny brown.]

77. VIDUA PRINCIPALIS.

Z. Sibudeni. Oct., Nov. (9); **Tv.** Wakkerstroom, Mch., Apl. (4); Legogot, Apl., May (3); Woodbush, Nov., Jan. (2); Pietersburg, Feb. (1); **P.** Beira, Dec. (2); Tambarara, Apl. (2).

The males moult in March; one collected at Wakkerstroom on March 4 has only one long tail-feather left, though still keeping the body-plumage intact. Three other males from the same place, dated March 10 and 23 and April 11, shew the gradual change of the male into the winter dress, which closely resembles that of the female.

["Hlegwane" of Zulus.

The Pin-tailed Widow-bird was noted commonly in Natal and Zululand, the South-Eastern, Eastern, and North-Eastern Transvaal, and the Beira and Gorongoza districts of the Portuguese country. It usually frequents the vicinity of native lands and gardens, where it is found in small flocks of about half a dozen, comprising both sexes. The call is "zwee-zwee" quickly uttered, and the flight is slow and jerky, especially that of males in breeding-dress; the food consists principally of the seeds of various grasses and plants.

The soft parts are:—Irides hazel; bill bright red; legs and toes dark brown.]

79. VIDUA PARADISEA.

P. Tambarara, July (1).

[I have seldom observed this species, and the only localities from which I have recorded it are the Knysna district, the North-Eastern Transvaal, and the Gorongoza district of Portuguese East Africa. In habits, flight, &c. it appears to resemble *V. principalis*.

The soft parts are:—Irides hazel; bill black; legs and toes dark brown.]

81. HYPOCHERA NIGERRIMA.

P. Tambarara, May (1).

[I have not seen this species elsewhere than in the Gorongoza district, and even there it was decidedly uncommon, only some two or three individuals being observed. It apparently has much the habits of the *Viduæ*, and was seen either feeding on the ground or perched on the topmost branches of a dead tree.

The soft parts are:—Irides hazel; bill pearly white; legs and toes fleshy white.]

83. PETRONIA SUPERCILIARIS.

Petronia petronella Stark & Sclater, Bds. S. Afr. i. p. 157.

Tv. Klein Letaba, Aug. (2); **P.** Coguno, Aug. (1); Masambeti, Oct., Nov. (3).

The example from Coguno in the Inhambane district differs from the other quite typical specimens in its much clearer white eyebrow, its paler under surface, and most markedly by its chin and throat being quite clearly washed with yellow, apart from the yellow throat-spot. There is only one bird in the British Museum collection which approaches this. It was collected by Buckley in Swaziland (24th July, 1876). I am inclined to regard these two specimens as belonging to a coastal form worthy of subspecific distinction from the typical species, but should like to examine further material. Its measurements are: wing 90 mm., tail 57, tarsus 12, culmen 11.

[This Sparrow was found in the low country of the

North-Eastern Transvaal and the Inhambane, Beira, Gorongoza, and Tete districts of Portuguese East Africa.

I consider it a misnomer to call this a Rock-Sparrow, as its habits exactly resemble those of the other members of the Sparrow tribe, and all that I have seen have been solitary or in pairs frequenting more or less timbered country and feeding on grain, seeds, the green shoots of trees and shrubs, &c., while often visiting native lands for this purpose. The call is very similar to that of *P. melanurus*, and only after long acquaintance with the species can a difference be detected.

The soft parts are:—Irides hazel; bill, upper mandible dark horn-brown, lower much paler; legs and toes slate-coloured.]

84. PASSER MELANURUS.

CC. Durban Rd., Mch., Sept. (5); **Tv.** Wakkerstroom, Apl. (2).

84 *a*. PASSER MELANURUS DAMARENSIS.

CC. Klipfontein, Apl., May, July (10); Port Nolloth, Aug. (2).

The Damaraland Sparrow is separated by Reichenow from the Cape form by the "purer black of the crown, while in the typical form the black is clearly intermixed with brown." I find in the Klipfontein males that the head is darkest in April, while later the feathers become worn and bleached, and the July birds are much paler on the head and back than those of April. I am unable to distinguish these from Damaraland birds in the British Museum or from Cape and Transvaal birds. The Namaqualand females, however, are distinctly paler and may perhaps justify the retaining of this subspecies. Grant has come to very similar conclusions.

[This Sparrow seems very variable in the colour of the upper surface at the same time of year, especially among the females; this is probably due to age, the darker birds being fully adult.

There are two moulting females killed in March and April which are assuming a dark head and mantle, so that the conclusion come to by Dr. Sharpe in 'The Ibis' for 1904

(p. 352), that this dark plumage is probably the breeding-plumage, does not seem to be the case. It must therefore be due to age.

The series of females from Namaqualand, when compared with Cape, Deelfontein, and Eastern specimens, are much paler and more sandy on the upper surface and are perhaps slightly smaller. The males, however, intergrade with Cape and Deelfontein specimens. A series of females in breeding-dress are required to shew whether or not this is a pale Western race.

The Cape Sparrow was noted from Namaqualand, the Cape Peninsula, the South-Eastern Transvaal, Pretoria, and Upper Natal, but does not exist in Zululand, the coast districts of Natal, the Eastern and North-Eastern Transvaal, or Portuguese East Africa. It frequents towns and human habitations, and is found both in pairs and flocks. In call, actions, and general habits it resembles the European Sparrow.

The soft parts are:—Irides dark hazel; bill dark horny black; legs and toes dark blackish brown.]

86. PASSER GRISEUS.

Tv. Pietersburg, Feb., Mch. (3); Turfloop, Mch. (3); **P.** Tete, Sept. (1).

[This Sparrow was only observed in the localities where specimens were taken. In the North-Eastern Transvaal it was fairly plentiful, and frequented gardens and orchards. It was scarce in the Tete district, only a few being observed in the native lands around my Mazoe camp. In call and habits it resembles the other Sparrows.

The soft parts are:—Irides hazel; bill black; legs and toes brown. In the winter season the bill appears to be paler horn-coloured.]

87. POLIOSPIZA GULARIS.

CC. Knysna, Apl. (1); **Tv.** Legogot, Apl. (2); Woodbush, Nov., Jan. (3).

[Specimens from East and North-East Transvaal are not so much spotted on the throat as Southern examples.

This Seed-eater was found in the Knysna and the South-Eastern, Eastern, and North-Eastern Transvaal. It usually occurs in flocks and frequents cultivated and old lands, feeding largely on various seeds and grain, especially millet. In habit and call it resembles birds of the genus *Serinus*.

The soft parts are:—Irides hazel; bill, upper mandible dark horn-brown, lower fleshy; legs and toes brown.]

POLIOSPIZA MENNELLI.

Poliospiza mennelli E. C. Chubb, Bull. B. O. C. xxi. 1908, p. 62.

P. Coguno, Aug. (1).

This species was recently described from the Shangani River in Rhodesia. A Seed-eater from Coguno in the Inhambane district is a very good match to the type in the British Museum, and extends the distribution of the species considerably. It is most probable that the oldest name is *P. melanochroa* Rchw., described from Ukinga in German East Africa, to which Neave has recently referred examples taken by him in N.E. Rhodesia; of this I have not seen the type. Reichenow, however, does not mention the conspicuously dark ear-coverts, and states that the tail measures 70 mm. against 51 for *P. mennelli*.

[Mennell's Seed-eater was only found in the Inhambane district, where the male sent was shot feeding in a native garden among numbers of Waxbills.

The soft parts are:—Irides hazel; bill fleshy; legs and toes pale brown.]

88. SERINUS CANICOLLIS.

Z. Sibudeni, Oct., Dec. (11); **Tv.** Wakkerstroom, Mch. (6); Woodbush, Nov., Dec. (3).

The young birds killed at Wakkerstroom are very different from the adults, and I have not found any adequate account of their plumage, nor are there any examples like them in the British Museum collections.

The following is a short description:—Above dull olive-brown, streaked more finely on the head and rump, more strongly on the back, with dusky; wings and tail very much as in the adult; below dull olive, heavily streaked except on the centre of the abdomen and under tail-coverts.

It most nearly resembles the female of *S. flaviventris*, but differs in its plain and not yellow rump, and very yellow tail.

["Umzingili" of Zulus. "Kaap-Canarie" of Colonists.

The Cape Canary was noted from the Cape Peninsula (where, however, it was not plentiful), Zululand, and the South-Eastern and North-Eastern Transvaal. At Wakkerstroom in S.E. Transvaal several large flocks, apparently of young birds only, were observed during March; six of these were obtained and are birds in first plumage, just beginning to assume the adult feathering. This Canary is usually observed in pairs, except after the young are fledged. It frequents the edges of woods and forests, plantations, and gardens. The males have a sweet and prolonged song, and the usual call-note is a mellow "sweet."

The soft parts are:—Irides hazel; bill pale horn-coloured; legs and toes darkish brown.]

89. SERINUS SULPHURATUS.

CC. Knysna, Feb. (1); **Z.** Umfolosi Station, Aug., Sept. (5).

The brown streaks on the back vary a good deal in development; doubtless, as the plumage wears, they become more marked.

["Nqabe" of Zulus.

This large Canary was only found in the Knysna district and Zululand. In the Knysna it frequents the more open parts of the forest regions. In Zululand it was only noted in the thorn- and euphorbia-covered flats around the Umfolosi Station. I have always seen it singly, and the males were often observed sitting on the tops of trees, giving vent to a loud and prolonged song. At other times they were seen feeding on the seeds of grass and wild plants.

The soft parts are:—Irides hazel; bill, upper mandible pale horn-brown, lower yellowish horn-coloured; legs and toes horn-brown.]

90. Serinus flaviventris.

CC. Klipfontein, Apl., May, June (5); Port Nolloth, July (1); Durban Road, Mch., Sept. (3).

One nest with three eggs taken at Durban Road, Sept. 22nd.

[This Canary was only noted from Namaqualand and the Cape Peninsula. In the former locality it was in small flocks, as it was the winter season, but in the latter locality it was breeding and occurred in pairs.

I found the nest on Sept. 22nd at the Cape; this was composed of twigs of a wild sage and lined with the down of a cotton-plant. It was placed some two feet from the ground in the middle of a bush. It contained three eggs, which were apparently the full clutch, and both the old birds were secured. In habits and call this Canary much resembles *S. canicollis*; and it has a sweet and prolonged song, in many ways equal to that of the Cape Canary.

The soft parts are:—Irides hazel; bill, upper mandible pale horn-brown, lower much paler and often yellowish: legs and toes darkish to dark brown.]

93. Serinus icterus.

Z. Jususie Valley, Dec. (4); Umfolosi Station, July (2); Hluhluwe Stream, Aug. (1); Ngoye Hills, Oct. (2); **Tv.** Legogot, May (1); Klein Letaba, Aug., Sept. (3); **P.** Tambarara, Apl., May, June, July (4).

[" Umtuquani " of Zulus.

This little Canary was noted from Zululand, the Eastern and North-Eastern Transvaal, and the Gorongoza district of the Portuguese country. It appears to be confined, more or less, to the lower "bush veld," and was nowhere observed in the "high veld" proper. It is found in small flocks in the winter season and in pairs during the summer, but I have not succeeded in taking the eggs. It frequents, to a great extent, old and cultivated land and gardens, feeding principally upon grass-seeds and dry fruit, especially the "Num-num," the juice of which often stains the plumage of the throat and breast (*vide* ♀ 26 Sept. '05, Klein Letaba).

The call is the usual Canary note, and the males besides have a rather sweet song of a few notes.

The soft parts are:—Irides hazel; bill dusky horn-coloured, lower mandible somewhat paler; legs and toes dusky brown, slightly paler in the female.]

94. SERINUS ALBIGULARIS.

CC. Klipfontein, Apl. (2); Port Nolloth, Aug. (2).

[Since the Central Cape Colony trip I have only found this Seed-eater in Namaqualand, where it was fairly plentiful. It was observed singly or in pairs, and frequented gardens and veld near water. It feeds largely upon various seeds and grains.

The soft parts are:—Irides hazel; bill, upper mandible palish horn-coloured, lower fleshy; legs and toes blackish.]

97. SERINUS SCOTOPS.

CC. Knysna, Dec., Feb. (5); **Z.** Sibudeni, Nov., Jan. (2); **Tv.** Zuurbron, Apl., May (10); Woodbush, Nov., Dec. (3).

["Umbalane" of Zulus.

This Canary was found in the Knysna, Zululand, and the South-Eastern and North-Eastern Transvaal. It is a woodland-haunting species, and is usually found in pairs in clearings and along roads. It appears to feed largely on the berries and small wild fruit that abound in most forest districts.

This is a pretty and lively species, and the males have a more or less sweet song, the usual call-note being very similar to that of the other South-African Canaries.

The soft parts are:—Irides hazel; bill, upper mandible pale horn-brown, lower fleshy horn-coloured; legs and toes fleshy brown.]

92. ANOMALOSPIZA IMBERBIS.

Tv. Woodbush, Jan. (1).

This bird should, in my opinion, be placed among the Ploceidae, as suggested by Shelley. There is no example of it in the British Museum. The types of *Serinus rendalli* from Barberton are in the Liverpool Museum, and I know of no other South-African examples being taken since (*cf.* Ann. S. Afr. Mus. iii. 1905, p. 372).

[A single specimen only of this curious species was obtained; this was shot in a reedy river among great numbers of *Hyphantornis* and *Pyromelana* that were breeding there. Its very bright colour and small size at once distinguished it, but I was not able to pick out another example. In habits it apparently resembles the Yellow Weavers.

The soft parts are:—Irides hazel; bill blackish slate-coloured, paler horny on the under side of the lower mandible; legs and toes pale brown.]

99. ALARIO ALARIO.

CC. Klipfontein, May (1).

[This species was only found in Namaqualand, where it was in company with *A. leucolæma*, but was apparently much the scarcer bird, as the example sent was the only one shot. In call and habits it resembles the other form.

The soft parts are:—Irides dark hazel; bill horn-brown; legs and toes blackish.]

ALARIO LEUCOLÆMA.

CC. Klipfontein, Apl., May (8).

The white-throated and white-eyebrowed form of the Mountain Canary was supposed to be the winter dress of the typical form until Sharpe (Bull. B. O. C. xiii. p. 80) described it as a distinct species under this name.

It appears to replace *A. alario* to the west and north-west. There are examples of *A. alario* in the British Museum from Deelfontein, and one from Table Mountain, and also one labelled "Zambesi, Meller," of doubtful authenticity.

Alario leucolæma, on the other hand, appears to be found chiefly in German S.W. Africa. There are examples in the British Museum from Damaraland, the Hountop River, Gt. Namaqualand (type), and from Ookiep in Little Namaqualand.

There are three females among those collected by Grant; these are quite distinguishable from the same sex of *A. alario*. They are paler, have a more or less distinct white eyebrow, white lores, a white spot in the ear-coverts, and a white throat slightly spotted with brown; while the female of *A. alario* has no white on the head, throat, or ear-coverts, all of which are dusky brown.

I think, therefore, there can be no question of the distinctness of the two species, though *A. alario* extends as far west as Klipfontein and *A. leucolæma* as far east as Deelfontein.

[This bird was fairly plentiful in Namaqualand. It was found in flocks and frequented homesteads and cultivated lands, feeding largely on the fallen grain, or at other times on various seeds. The males often indulge in a sweet little song and when feeding are continually calling.

The soft parts are:—Irides dark hazel; bill horn-brown; legs and toes brown.]

101. EMBERIZA FLAVIVENTRIS.

Tv. Klein Letaba, July, Aug., Sept. (8); Woodbush, Jan., May (3): Legogot, Apl. (1); **P.** Coguno, Aug. (2).

[This Bunting was only noted from the East and North-Eastern Transvaal and the Inhambane district of Portuguese East Africa. I have always observed it singly or in pairs. It spends the greater part of its time on the ground searching for and feeding on various seeds; when disturbed it perches on a bush or low bough of a tree, and is usually tame and easily shot. Its call is "sissi-sissi see," but is not often heard. The flight is quick and jerky, but never sustained.

The soft parts are:—Irides hazel; bill, upper mandible dark horn-brown, lower fleshy; legs and toes fleshy-brown.]

102. EMBERIZA MAJOR.

P. Tambarara, Mch., Apl. (3).

Shelley does not recognise *E. orientalis* as distinct from *E. major*, and this widely spread tropical Bunting should be known under the latter and older name. It is a rare bird in South Africa, and there is only one example thence in the British Museum—a skin collected on the Hunyani River in Mashonaland by G. A. K. Marshall.

Grant's examples are all young birds. One of these has the breast narrowly streaked with brown.

[Only some half a dozen individuals of this Bunting were seen, and all were immature. They frequented the lower end of a large patch of cultivated land bordering a stream, and were feeding on millet and rice that had been planted there by the natives. In actions and habit this species resembles *E. flaviventris.*]

103. Fringillaria capensis.

CC. Durban Road, Mch. (3); Klipfontein, Apl., July (5).

The Durban Road skins are slightly paler than those from Klipfontein, while the latter are distinctly paler than those from Deelfontein, which were described by Sharpe as a new species (*F. media*); the Buntings of Natal and the Transvaal are still more differentiated, and form a third subspecies. There are examples in the British Museum from the following localites:—

F. capensis typica: Capetown and suburbs, Durban Road, and Tjobis (Namaqualand); slightly darker are those from the Paarl (*Shelley*), Mossel Bay (*Oates*), and Klipfontein.

F. capensis media Sharpe: Deelfontein, De Aar, and Potchefstroom.

F. capensis reidi Shelley: Ingagane River and Newcastle (Natal), and Rustenburg (Transvaal).

[The Cape Bunting is found in pairs, and, as a rule, on ground strewn with boulders and rocks. On the tops of these it perches and underneath them it breeds. It is a tame and confiding species and is often seen near habitations. The flight is low, but not sustained, and the call is a single note.

The soft parts are:—Irides hazel; bill slate-coloured; legs and toes dark horn-coloured.]

104. Fringillaria tahapisi.

Tv. Klein Letaba, July, Aug. (5); Woodbush, Nov., Jan. (2).

[The North-Eastern Transvaal is the only locality in which I have found this Bunting.

Unlike the other South African members of the genus, it usually perches on trees and bushes, and is not necessarily found in rocky situations. At the Klein Letaba it was commonly seen in the late afternoon drinking at the river in company with Finches and Sparrows, flying up to the trees after quenching its thirst, and cleaning and preening its feathers in the last rays of the sun. The call is very similar to that of *F. capensis*.

The soft parts are:—Irides rich hazel; bill, upper mandible dark horn-coloured, lower yellow; legs and toes yellowish horn-coloured.]

105. Fringillaria impetuani.

CC. Port Nolloth, Sept. (2).

[After the Central Cape Colony trip this little Rock-Bunting was only found in Namaqualand, where it was not plentiful, and in the North-Eastern Transvaal, where a pair were observed on a rock-strewn hill-side near Woodbush village, in June 1905. Like *F. capensis* it frequents rocky localities, and I have never seen it perch on trees or bushes.

The soft parts are:—Irides hazel; bill slaty; legs and toes fleshy.]

107. Eremopteryx verticalis.

CC. Klipfontein, June, July (3).

[This little Lark was only found in Namaqualand, where it was by no means plentiful; it was observed in small flocks in sandy country. When disturbed the whole flock rises, most of them uttering a short note, but never going far. It is a sociable and tame little bird, being often seen within a few yards of outbuildings.

The soft parts are:—Irides brown or grey-brown; bill pearly white; legs and toes fleshy white.]

108. Eremopteryx smithi.

Tv. Pietersburg, Feb., Mch. (11); **P.** Tete, Aug. (3).

[Smith's Lark was first noted in the North-Eastern Transvaal, where numbers made their appearance (Feb. 23) during the latter half of the rainy season on the open sandy country around Pietersburg. It was not again seen till Tete was reached, where numbers were observed in August on the sandy rock-strewn country bordering the Zambesi River near that town. In actions, call, and habits this Lark resembles the other members of the group.

The soft parts are:—Irides bright hazel; bill pearly or bluish white; legs and toes purplish.]

112. CALENDULA CRASSIROSTRIS.

CC. Durban Road, Mch. (3); Klipfontein, Apl., May, June, July (10); Port Nolloth, Aug. (3).

Mr. Grant thought that he could distinguish a Cape race from that of Namaqualand and even of Deelfontein, but the Cape examples from Durban Road were all taken in March, and had hardly finished their moult, so that the wings and tails appear unusually short.

My measurements seem to shew that the culmen of both the Namaqualand and Cape birds averages larger than in those from Deelfontein, but hardly sufficiently so for distinguishing two races.

[This Lark was found at the Cape Peninsula and in Namaqualand. It frequents singly or in pairs more or less open sandy localities or cultivated lands, and spends most of its time on the ground in search of grain and various seeds.

The soft parts are:—Irides hazel; bill, upper mandible and tip of lower dark blackish horn-coloured, base of lower whitish horn-coloured; legs and toes pale slate-coloured.]

HETERONYX RUDDI. (Text-figure 9.)

C. Grant, Bull. Brit. Orn. Club, xxi. p. 111 (July 11, 1908).

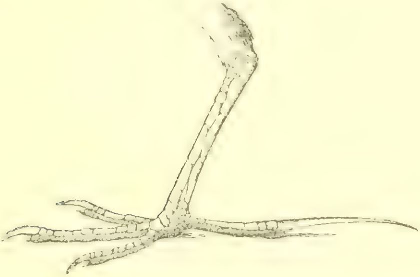
Tv. Wakkerstroom, Feb. (1).

A single example of this curious Lark was obtained in the South-Eastern Transvaal, and was described as the type of a new genus by Grant.

It resembles *Mirafra* in every respect—in the form of the beak, the exposed nostrils, the shape of the wing, and the length of the outer primary, but can be at once recognised by the long hind toe and claw, measuring in the single example 12 + 19 = 31 mm. in all. In *M. cheniana*, a bird of about the same size, the hind toe and claw measure 7 + 7 = 14 mm.

The following is a further description of this interesting bird :—Above dusky, most of the feathers edged with pale tawny ; a narrow band of pale tawny down the centre of the crown, and a good deal of rufous tawny across the neck ; primaries edged with pale rufous, and with a paler rufous edging along the webs on the lower surface ; tail just moulted, but apparently with the light pattern of the outer feather white ; below tawny whitish, quite white on the throat, and with dusky streaks on the breast ; lores and ear-coverts as beneath : under wing-coverts very pale tawny, almost white. Hind claw quite straight for the first three-quarters of its length, beyond which it is slightly downcurved.

Text-fig. 9.



Foot of *Heteronyx ruddi*, to shew the long hind toe and claw.

[Rudd's Long-clawed Lark was found in the open grass-country around Wakkerstroom ; the specimen sent, the only one observed, was shot running on the ground.

Irides deep brown ; bill, upper mandible pale horn-brown, lower yellow-horn-coloured ; legs and toes fleshy.]

119. Mirafra africana.

Z. Umfolosi Station, July, Aug., Sept. (5) ; **P.** Coguno, Sept. (3).

[This remarkable Lark was only found in the low country of Zululand and again in the Inhambane district of the

Portuguese country. It frequents more or less open localities, sparsely bushed, or native clearings, and in the early mornings can be seen perched on the top of some bush or low tree, uttering at intervals a loud and somewhat prolonged whistle; during the rest of the day it is silent and spends its time on the ground resting or searching for food.

It was, apparently, not breeding in either locality at the time of my visits.

The soft parts are:—Irides deep brown; bill, upper mandible dark horn-coloured, lower fleshy; legs and toes darkish brown.]

MIRAFRA AFRICANA TRANSVAALENSIS.

Hartert, Nov. Zool. vii. 1900, p. 45 [type from Rustenburg].

Tv. Woodbush, Jan., Feb. (3); Pietersburg, Mch. (1); Turfloop, Mch. (1).

[I can appreciate this race of Hartert's, which, besides the more rufous coloration, has the bill decidedly smaller, averaging 11 against 18 mm. in the typical form.

This geographical race was only found in the North-Eastern Transvaal, on the thorn-covered hill-sides.

In habits, call, &c. it exactly resembles *M. africana.*]

121. MIRAFRA CHENIANA.

Tv. Pietersburg, Feb., Mch. (5).

[This Lark was found only on the flat open grass veld near Witkop Hill, close to Pietersburg.

There some numbers were seen, always singly; and the striking habit of the bird, soaring and singing in the morning and late afternoon, much after the manner of *A. arvensis*, at once drew my attention to it. During the heat of the day it is found among the longish grass, and can also be seen feeding on open sandy spots. The food, apparently, is principally of grass-seeds.

As only males were secured, the bird must have been breeding, but no females could be flushed.

The soft parts are:—Irides bright brown; bill, upper mandible horn-brown, cutting-edge of upper and lower mandibles pale yellowish horn-coloured; legs and toes fleshy brown.]

MIRAFRA RUFOCINNAMOMEA.

Shelley, Bds. Afr. iii. 1902, p. 45.

Tv. Klein Letaba, Sept. (1).

A Lark taken in the North-East Transvaal seems undoubtedly referable to this species, which is new to South Africa. It has hitherto been known from Ugogo in German East Africa, and north to Abyssinia, whence came the type described by Salvadori. There is only one example in the British Museum—the type of *M. torrida* Shelley, obtained by Sir John Kirk in Ugogo. The Transvaal example matches it very well.

[One specimen of this species was taken in the low country of the North-Eastern Transvaal, where it was distinctly uncommon. It was shot running on the ground in an open grassy flat.

The soft parts are:—Irides hazel; bill very dark horn-coloured, lower mandible slaty; legs and toes slaty.]

MIRAFRA ZOMBÆ.

Ogilvie-Grant, Bull. B. O. C. xiii. 1902, p. 27: Claude Grant, Bull. B. O. C. xxi. 1908, p. 111.

P. Masambeti, Nov. (1).

This species, new to South Africa, and before noted from the low country in Nyasaland—Zomba, Lake Shirwa, and Milanji slopes, had been previously confused with *M. fischeri*, from which it differs in having the upper parts dusky, streaked with darker and without transverse pattern.

[A single specimen, the only one seen of this Nyasaland species, was shot on an open grassy flat, bordering some cultivated land, where the Masambeti stream disappears into the veld.

The soft parts are:—Irides hazel; bill dark horn-coloured, lower mandible yellowish; legs and toes livid.]

123. MIRAFRA APIATA.

CC. Plettenberg Bay, Feb., Mch. (4); Klipfontein, July (1).

["Monad-vogel" of Colonists.

The male in somewhat worn plumage, shot on the 19th of July in Namaqualand, has considerably more rufous on each side of the crown and on the nape than normal specimens.

This Lark was only observed in Namaqualand and the Knysna district, where it frequents open country dotted with scrub or scattered bushes. It is well known from its peculiar habit of springing into the air with a loud clapping of the wings, and giving vent to a prolonged whistling "whew" as it descends.

Also in the early morning, usually from the first streak of dawn to just after sunrise, its call of "Vroeg in de morrow, vroeg in de morrow, daglicht, daglicht, daglicht" (Early in the morning, early in the morning, daylight, daylight, daylight) can be heard. This call is sometimes, but not usually, heard at sundown.

The soft parts are:—Irides hazel; bill dark horn-coloured, lower mandible much paler; legs and toes flesh-brown.]

132. Mirafra nivosa.

Alæmon nivosa Stark & Sclater, Bds. S. Afr. i. p. 230.

CC. Durban Rd., Mch. (1); Klipfontein, Apl., May, June, July (15); Anenous, Apl. (2); Port Nolloth, Mch., Aug. (3).

[The Karroo Lark was only found at the Cape Peninsula, where it was scarce, and in Namaqualand, where it was very plentiful. It frequents open flats and the tops of mountain-ranges, and is usually in pairs. The call is a whistle, and, like *Certhilauda capensis*, the bird is fond of perching on the tops of low bushes and scrub, especially if disturbed.

The soft parts are:—Irides hazel; bill slate-coloured, pinkish at base of lower mandible; legs and toes pinkish slate-coloured.]

125. Spizocorys conirostris.

Tv. Pietersburg, Feb., Mch. (4).

[This Lark was only found in the open grass-country near Pietersburg, where a few small flocks were observed. It frequents sandy patches where the herbage is shortest, and feeds largely on the seeds of grass. When flushed it utters a sharp little call, but seldom flies far.

The soft parts are:—Irides hazel; bill, legs and toes fleshy horn-coloured.]

126. Tephrocorys cinerea.

CC. Darban Rd., Mch. (3); Klipfontein, Apl., May, June, July, Aug. (15); Port Nolloth, Aug. (4).

An examination of the series of Red-capped Larks in the British Museum, together with those contained in the present collection, leads me to the conclusion that we must distinguish two geographical races, a western paler and a more rufous and darker eastern and northern race. In the latter the rufous patches on the sides of the chest and crown are more extensive and of a richer shade, and often, though not always, extend to the flanks, while the general coloration is distinctly darker.

Additional examples in the British Museum, which may be fairly referred to the typical paler race, are from Deelfontein (*Grant and Seimund*), Little Namaqualand, and Cape Town.

128. Tephrocorys cinerea anderssoni.

Tv. Pietersburg, Mch. (1).

Of the darker race referred to above there is only one example in the Grant collection; it matches almost exactly *T. anderssoni*, a cotype of which from Otjimbinque is in the British Museum.

There are other Larks in the collection from Colesberg, Elands Post, and "British Kaffraria" in C.C., from Kumma in Bechuanaland, from the Orange Free State, Potchefstroom, and Natal, as well as Angoniland and British East Africa, which, I think, may be referred to this subspecies.

[The Red-headed Lark was observed in Namaqualand, the Cape Peninsula, and the South-Eastern and North-Eastern Transvaal. I have only noticed it in flocks, often of considerable numbers; it usually frequents open and more or less sandy country, where it feeds largely upon seeds, frequently visiting native lands for the fallen grain after harvesting.

It is a dainty and lively little Lark, running with speed and having a strong though seldom long-sustained flight. When feeding the birds continually call to each other, and also when disturbed.

The soft parts are :—Irides hazel ; bill pale brown, in specimens shot in July and August the bill is more or less slaty ; legs and toes slaty.]

130. Heterocorys breviunguis.

Tv. Turfloop, Mch. (1).

One example of this rare bird was brought back. There are only three examples in the British Museum—two without locality from Sir A. Smith's collection, and one labelled "Ort fr. Inkoluba," taken by Wahlberg, 16 Apl./41. According to Sundevall's description, the type locality is the region of the Limpopo River (Aprevier), probably the present Aapies River on which Pretoria is situated, and the Inkoluba River, which is probably also one of the head tributaries of the Limpopo.

[The Short-clawed Lark was only found in the strip of thorn-covered country along the main "Zand River" on the Pietersburg-Woodbush road. There several examples were seen, but were so wild that after much time spent in endeavouring to get within shot only one was taken. It runs with celerity and often perches on the tops of the bushes and stunted trees, uttering a clear whistling call-note. Apart from size and colour, in general habits it much reminded me of *C. semitorquata*.

The soft parts are :—Irides hazel ; bill grey-brown, base of lower mandible slaty ; legs and toes bluish white.]

131. Certhilauda semitorquata.

Tv. Wakkerstroom, Mch., Apl. (5).

[This large Lark was only found in the Wakkerstroom district, where it frequents the open and more or less stony country near the town. It is always in pairs, and in habits, call and flight greatly resembles *C. capensis*.

The soft parts are :—Irides light brown ; bill brownish horn-coloured, bluish at base of lower mandible ; legs and toes slaty brown.]

133. CERTHILAUDA CAPENSIS.

CC. Port Nolloth, Mch., July, Aug. (14).

The bill of the male averages 30·5 mm., ranging from 28 to 33 in eleven examples; that of the female is much smaller, 24–25 in three examples.

[This Lark was only found in Namaqualand, where it inhabits the "sand veld," which extends inland some ten miles from the coast. It is generally observed in pairs, and attracts attention by sitting on the tops of bushes and uttering at intervals a clear whistle-call. It runs with great celerity; the flight is strong and straight, but is seldom sustained for more than a few yards. It was not breeding at the time I was in the locality.

The soft parts are:—Irides dark hazel; bill dark horn-brown; legs and toes bluish horn-coloured.]

134. CERTHILAUDA ALBOFASCIATA.

CC. Anemous, Apl. (3); Klipfontein, Apl., July (4); **Tv.** Pietersburg, Feb. (2).

The Namaqualand specimens are not in any way paler than the normal Cape examples, and have no resemblance to Reichenow's *C. albofasciata arenaria* from Great Namaqualand. In fact, their lower sides are of a slightly darker and more chestnut shade of brown than those from the rest of the Colony; they are further distinguished by an almost complete absence of the dusky breast-streaks. These characters, however, seem hardly sufficiently constant to warrant the formation of a new race.

[This Lark was found only in Namaqualand, where it was common, and again in the North-Eastern Transvaal, where the single pair taken were observed on the flat open veld near Pietersburg.

This bird is found in pairs or sometimes in threes, and frequents sandy localities sparsely covered with vegetation. It runs with celerity and will often, when under cover of a bush or rise in the ground, squat and endeavour to evade pursuit, but if approached will instantly start running away, and, finally, if closely pursued, take to the wing. The flight is slow and somewhat undulating, but seldom long sustained, the white tips to the tail-feathers being very conspicuous. The call is a clear whistle, but not so loud as that of *C. capensis*; and like that species the bird will often call from the top of a low bush or clump of heather.

The soft parts are:—Irides greyish hazel; bill, upper mandible dusky horn-coloured, lower more or less livid; legs and toes whitish brown.]

135. MACRONYX CAPENSIS.

CC. Knysna, Apl. (2): Plettenberg Bay, Feb., Mch. (5).

[“Kalkoenje” of Colonists.

The Cape Long-Claw was only found in the Knysna; its place was taken in all the Eastern and Northern localities visited by the following species. It inhabits open grassy hill-sides, and is found both singly and in pairs. It is a great runner, and is fond of perching on the tops of ant-heaps and clods of earth. When flushed it rises with rapid beats of the wings and flies fairly straight, seldom, however, going far, and descending abruptly and sharply to the ground. The call, which is usually uttered when flying, and also when just rising, is a series of loud mewing whistles which might be described as “Ziu,” “Ziu.”

I have found several nests, which always contained newly hatched young. They are cup-shaped, composed of grass, and placed on the ground under the shelter of an ant-heap or large tuft of grass.

When breeding the adults are particularly tame, approaching within a few yards of the intruder. The food is principally of insects, varied with grass and other seeds.

The soft parts are:—Irides hazel; bill, upper mandible dark horn-brown, lower dark slate-coloured; legs and toes palish horn-coloured.]

MACRONYX CAPENSIS COLLETTI.

Schou, Ornith. Monatsber. xvi. 1908, p. 119 (Zululand).

Z. Sibudeni, Oct., Nov., Dec. (11); Umfolosi Station, July (5); **Tv.** Wakkerstroom, Mch., Apl. (5); Zuurbron, May (1); Woodbush, Nov. (5); Turfloop, Mch. (2).

The Orange-throated Long-Claws of Natal, Zululand,

and the Transvaal form a well-marked race, and have been recently separated as *M. colletti* by Schou.

In this subspecies the yellow of the lower surface is much more extensive than in the typical form, reaching up to the black necklace; the yellow supercilium is also better marked and more extensive, and there is a yellowish tinge on the lower ear-coverts and below the eye.

In addition to the localities already mentioned, there are examples of this subspecies in the British Museum from Pinetown, Maritzburg, and Newcastle in Natal, Kroonstad in the Orange River Colony, Potchefstroom in the Transvaal, and the Makalaka country.

To the typical race belong examples from Cape Town, Elands Post, and King William's Town.

["Nqomfi" of Zulus.

Collett's Long-Claw was found both on the high and low veld of Zululand, the highlands of the Wakkerstroom district, the open country around Pietersburg, and the open grassy tops of the Woodbush Hills. This species, like *M. capensis*, usually frequents open country, and, where found, is very plentiful. In call and habits it resembles *M. capensis*, and it can only be considered a geographical form of it. It breeds in the summer season (Oct.–Feb.). I have seen nests in Zululand and N.E. Transvaal, unfortunately always containing newly hatched young. The site of the nest is like that of *M. capensis*.

The soft parts are similar in the two forms. In the young all the soft parts are much paler.]

136. MACRONYX CROCEUS.

Z. Jususie Valley, Dec. (1); Umfolosi Station, June, July, Aug., Sept. (7); Ngoye, Sept. (1); **Tv.** Legogot, May (4); **P.** Coguno, June (1); Masambeti, Nov. (2); Beira (3).

One nest with three eggs, taken at Masambeti, Nov. 9th.

["Nqomfi" of Zulus.

The Yellow-throated Long-Claw was noted from Zululand, the Eastern Transvaal, and the Inhambane and Beira districts of Portuguese East Africa.

As a rule, this species inhabits somewhat lower elevations than does *M. capensis*, and is partial to country that is more or less bushed; it is often found at the edges of and in the native lands. In flight and call it resembles *M. capensis*. It breeds in the summer season, and I have seen nests in Zululand, all of which, however, were plundered by Crows before the full clutch of eggs had been laid.

A nest taken near Beira on the 9th of November, 1906, was composed of dry grass and lined with fine rootlets; it was placed in a slight hollow at the foot of a small ant-heap among some rough grass. It contained three eggs, which were the full clutch, and the two old birds were shot. The curious thing about this nest was that the old birds built the nest about the third week in October and then deserted it, disappearing entirely from the locality, so that when I examined the nest about the end of the month it was wet and sodden and no birds were to be seen.

On the 9th of November following, happening to be passing over that piece of ground, I, out of pure curiosity, walked over to look at the place, and to my astonishment the female flew off the nest. Except perhaps for the very wet weather, I am unable to explain why the nest was deserted for so long, and then finally taken possession of.

The soft parts are:—Irides hazel; bill, upper mandible dark horn-brown, lower slaty; legs and toes darkish brown.]

137. Macronyx ameliæ.

Z. Umfolosi Station, June, July, Aug. (5).

["Ncongia" of Zulus.

This pretty Long-Claw was only found in the flats around Umfolosi Station, Zululand, where it was not plentiful and frequented the dry vleis filled with longish grass. It appeared singly, and had to be shot on the wing, as it was impossible to see it in the grass. The flight is low and fairly straight, and the call is like that of the other Long-Claws, but clearer and sharper.

The soft parts are:—Irides hazel; bill, upper mandible horn-brown, lower pale horn-coloured; legs and toes palish horn-coloured.]

138. ANTHUS CHLORIS.

Tv. Wakkerstroom, Mch. (4).

One specimen, dated March 16, is in full breeding-dress; of the others, two are young birds with the tails only just sprouting, while the fourth, dated March 2, is probably a freshly moulted bird.

[This Pipit was only found in the South-Eastern Transvaal, where it was not uncommon on the open grassy hill-sides and flats. It is rather a skulker, running with considerable celerity and, except when hard pressed, not taking to the wing. The flight is very similar to that of the European Meadow-Pipit (*A. pratensis*). It apparently breeds in the summer season, as young birds, both fully and half fledged, were taken in March.

The soft parts are:—Irides hazel; bill, legs and toes horn-brown. In the young the bill, legs and toes are much paler.]

139. ANTHUS LINEIVENTRIS.

Tv. Woodbush, May, June (2).

A rare species in South Africa.

[The two birds sent are the only examples I have ever seen of this Pipit. They were shot among some rocks on a recently burnt hill-side. They were tame, and when disturbed merely ran off from one rock to another, and uttered no call. In appearance and actions this bird greatly resembles *A. crenatus*.

The soft parts are:—Irides hazel; bill, upper mandible horn-brown, lower pale horn-coloured; legs and toes amber-yellow.]

140. ANTHUS CRENATUS.

Tv. Wakkerstroom, Mch. (2).

Also a rare species, hitherto supposed to be confined to Cape Colony. It has been recorded from the Cape Division, Deelfontein, Burghersdorp, and Colesberg, but the present examples extend its range considerably further to the north-east.

[The pair secured are the only examples I have seen since the Central Cape Colony trip. These were shot on some rocky ground on an open grassy hill-side. They were somewhat tame, and when disturbed merely ran from rock to rock, sometimes half hiding behind the boulders, at other times boldly perching on the tops.

The soft parts are:—Irides hazel; bill, upper mandible dark horn-brown, lower rather paler; legs and toes amber-coloured.]

142. ANTHUS BRACHYURUS.

Z. Ngoye Hills, Oct. (1).

[This little Pipit was only observed in the Ngoye Hills of Zululand and at Illovo, near Durban—a pair being seen in each locality. It frequents open grassy hill-sides or flats and is skulking in habit, running with some celerity through the grass. It is not easily flushed, but rises well within shot and utters a weak "pip pip" note, springing almost abruptly upwards, but seldom flying far, then descending precipitately to the ground and instantly running.

The soft parts are:—Irides hazel; bill horn-brown, lower mandible rather paler; legs and toes amber-brown.]

ANTHUS CAFFER.

Sundevall, Œfv. Vet.-Akad. Förh. 1850, p. 100.

Tv. Woodbush, May (2).

The history of this species will be found at length in the Annals S. Afr. Mus. iii. 1905, p. 375.

[Some three or four specimens of this species were observed among the grassy hill-sides dotted with trees around the Woodbush Village. Except for its larger size, it resembles *A. brachyurus*.

The soft parts are:—Irides hazel; bill, upper mandible horny brown, lower paler brown; legs and toes amber-brown.]

143. ANTHUS NICHOLSONI.

CC. Klipfontein, April, May, July (8); **Z.** Jususie Valley, Dec. (1); Umfolosi Station, July (1); **Tv.** Wakkerstroom, Apl. (1); Zuurbron, May (1); Woodbush, June, Dec. (2).

The examples from Namaqualand are paler and more rufous; they agree with those from Deelfontein and with the type of the species from Sigonell on the Vaal River. The Eastern examples are rather more olivaceous ashy and have slightly longer bills; they may be considered as approaching *A. sordidus* Rüpp. of East Africa.

[Nicholson's Pipit was found in Zululand and the South-Eastern and North-Eastern Transvaal, but cannot be said to be plentiful. Like *A. pyrrhonotus* it frequents grass country, and it is not easily distinguishable from that species.

The soft parts are:—Irides hazel; bill, upper mandible horn-brown, lower much paler; legs and toes amber-brown.]

144. Anthus pyrrhonotus.

CC. Knysna, Apl. (1): Plettenberg Bay, Feb., Mch. (4); **Z.** Sibudeni, Oct., Nov. (5); **Tv.** Woodbush, Nov. (1).

The examples from Zululand and the Transvaal have shorter hind claws and come very near *A. p. gouldi*.

[This Tawny Pipit was found in the Knysna district, Upper Zululand, and the Woodbush Hills of the North-Eastern Transvaal. It occurred both singly and in pairs, and frequented the open grassy hill-sides. It can run at a good speed, but readily flies when disturbed, although seldom going far. It is not easily distinguishable in the "veld" from *A. nicholsoni* or *A. rufulus*.

The soft parts are:—Irides hazel; bill, upper mandible horn-brown, lower yellowish brown; legs and toes pale brown.]

145. Anthus rufulus.

Z. Sibudeni, Oct., Nov. (3); Umfolosi Station, July (2); **Tv.** Wakkerstroom, Mch., Apl. (6); Pietersburg, Mch. (1); Woodbush, May, Nov. (2).

["Ncelu" of Zulus.

The Lesser Tawny Pipit was found in Zululand and the South-Eastern and North-Eastern Transvaal. It seems to frequent low and high veld indiscriminately, and is always seen where the grass is more or less thick and in the low country where the bush is more open. In general habits it resembles *A. pyrrhonotus* and *A. nicholsoni*.

The soft parts are:—Irides hazel; bill, upper mandible horn-brown, lower yellowish horn-coloured; legs and toes palish brown, in some specimens pale amber-coloured.]

147. MOTACILLA VIDUA.

N. Illovo, Nov. (1); **Tv.** Klein Letaba, July, Sept. (3); **P.** Tete, Sept. (2).

I quite agree with Mr. Grant's remarks about the winter plumage of this Wagtail. These birds have the black flanks characteristic of *M. vaillanti* (=*M. nigricotis* Shelley).

[In the small series of this Wagtail collected there are birds taken in the winter and summer seasons with entirely black heads and backs. This caused me to carefully overhaul the very fine series in the British Museum, and I find that there is no evidence to shew that this species assumes a winter plumage with an ashy-brown back. But there is every evidence to shew that the fully adult birds moult once a year, and that this takes place in the autumn, the black upper parts being therefore retained throughout both the winter and summer seasons. Also that young birds moult from the first plumage into an ashy-brown-back stage; the adult feathering apparently being assumed in the second year.

This Wagtail was only observed on the Tugela River at Bond's Drift, Natal, the low country of the North-Eastern Transvaal, and in the Tete district of the Portuguese country. It is partial to the land-locked mouths of rivers near the coast and the broad sandy rivers inland, like the Klein Letaba, the Mazoe and the Zambesi. Usually observed in pairs, sometimes in threes, in appearance and habits it greatly resembles the European Pied Wagtail (*M. lugubris*). The call is the Wagtail "Chiswick," and the flight is low, undulating, and graceful.

The soft parts are:—Irides dark brown; bill, legs and toes black.]

148. Motacilla clara.

Motacilla longicauda Rüpp. (nec Gmel.), Stark & Sclater, Bds. S. Afr. i. p. 257.

Z. Ngoye Hills, Oct. (1); **P.** Tambarara, Apl. (2).

[The Grey-backed Wagtail was only noted from the two localities where specimens were secured. In Zululand only a single pair was seen, both individuals being shot, but the female lost. In the Gorongoza district some two or three pairs were observed altogether. This Wagtail frequents rocky streams overhung with bush and large trees, and can be seen perched on some rock in mid-stream, running and taking short darting flights to catch some passing insect, or flitting with low and graceful flight from one rock to another. The call is the usual "Chiswick" of the Wagtails, and in general actions and habits this bird resembles the other species.

The soft parts are:—Irides hazel: bill blackish; legs and toes grey-brown.]

149. Motacilla capensis.

CC. Klipfontein, May (5); Port Nolloth, Aug. (1); Durban Road, Sept. (1); Knysna, Dec. (5): **Z.** Jususie Valley, Nov. (2); **Tv.** Wakkerstroom, Mch. (5); Klein Letaba, Aug. (1); Pietersburg, Mch. (1); Turfloop, Mch. (1).

Examples from Klipfontein, Zululand, and Pietersburg all match one another perfectly.

["Quick-stertje" of Colonists.

The Cape Wagtail was commonly observed in all localities from the Cape and Namaqualand to Natal, Zululand, and the North-Eastern Transvaal, but nowhere in the Portuguese country. It was seen both singly and in pairs, and frequented indiscriminately the banks of rivers and streams, vleis, and dams, both in open and bushed country. Its call and actions are those of *M. vidua*, but it is easily distinguishable from that species by its colour.

The soft parts are:—Irides dark brown; bill, legs and toes dark brown.]

155. Promerops cafer.

CC. Knysna, Apl. (1).

["Groot-zuiker vogel" of Colonists.

This species was only observed in the Cape Peninsula and the Knysna district, in both of which localities it was not uncommon, but was wild and difficult to shoot. It frequents the more open hill-sides and mountain tops, where Proteas abound, and on the nectar of these plants it principally feeds. Its general habits are well described by Stark and Sclater, and need no further repetition.

The soft parts are:—Irides hazel; bill, legs and toes black.]

156. Promerops gurneyi.

Tv. Zuurbron, May (1).

[I have only observed this species among the "Zuikerbosch" (*Protea*) clad mountains which divide the eastern side of the Wakkerstroom district from Swaziland. There it was not uncommon, but like *P. cafer* was very wild, and I only succeeded in getting within shot of one specimen. In habits it resembles *P. cafer*.

The soft parts are:—Irides dark brown; bill, legs and toes black.]

157. Nectarinia famosa.

CC. Klipfontein, May, June, July (14); Anemous, May (3); Durban Road, Mch., Sept. (2); Plettenberg Bay, Mch. (2); **Z.** Sibudeni, Sept., Oct. (2); Umfolosi Station, July, Aug. (2); **Tv.** Wakkerstroom, Feb., Mch. (5); Woodbush, Nov., Dec., May, June (5).

Mr. Grant, if I rightly understand his argument, believes that there is no true winter plumage to the males of the Malachite Sun-bird. This certainly seems to be borne out by the Namaqualand series; there are males in full plumage dated May 8, 23, 24, 27, June 1, and July 17, 18, that is all through the winter months.

On the other hand, I can find no other adult males in breeding-dress taken in the three winter months either in the present collection or in the British Museum series. All the birds taken at this time are in what Mr. Grant calls the semi-adult stage, which I take to be a winter plumage.

My recollections of the very large series in the South-African Museum also confirm my belief that there is a double moult, after and before the breeding-season.

However, the matter requires further careful investigation by some observer in the field before a final conclusion can be reached.

[This series shews that the adult metallic plumage of the male is retained throughout the year, there being only one moult, which takes place after the breeding-season, in the autumn months from March to May. The series of immature males seems to shew that there are two complete plumages before the adult stage is reached.

1st. The first plumage.

2nd. A semi-adult plumage with the tail (the central pair of feathers also developed), wings, and rump as in the adult, but only a few metallic feathers on the mantle and under parts, which are otherwise as in the adult female.

This plumage is assumed in the autumn and winter following the nesting-season, that is to say, between the months of March and June, though birds of a late brood may still be found moulting in July and August. The full adult feathering is then attained in the autumn and winter of the second year, a complete moult again taking place, which is completed by the end of August. Therefore some adult males killed in October and November are less worn than others; these being the immature birds that have assumed the metallic feathering during the previous autumn and winter—that is to say, March to August.

The following examples are in the collection :—

♂, *young*. 20 March.—This bird is in full moult, and is assuming the metallic wings and tail of the adult, but both dull and metallic feathers are replacing the young plumage on the breast and mantle; the head and throat not yet shewing signs of moult.

♂, *immature*. 17 May.—This bird has almost completed its moult, the wings, rump, and tail being as in the adult, the new feathering of the head, mantle, and under parts being as in the adult female, interspersed with a few metallic feathers, some of which still shew the shaft-scales.

♂, *immature*. 14 March.—This bird is in full moult, and is obviously changing from the second plumage to the full adult, as all the old feathers are very much worn, the long central tail-feathers being worn to a thread; the head, mantle, and under parts have hardly started to change, but what feathers are appearing, are metallic.

♂. 23 June.—This specimen is in full moult and has practically assumed its complete adult feathering, only a few worn dull feathers being left on the head and nape, lower flanks, and under tail-coverts.

When the series in the Rudd Exploration Collection is laid out along with the fine series of immature males in the Museum Collection, the sequence of plumage appears very complete.

This large Sun-bird was commonly noted in Namaqualand, the Cape Peninsula, the Knysna district, Natal and Zululand, and the South-Eastern, Eastern, and North-Eastern Transvaal, but was not seen anywhere in the Portuguese country. It frequents the more open hill-sides and mountainous districts, seldom occurring in densely wooded localities and never inside the forests. It especially frequents localities where Proteas abound and feeds on the nectar of these and other flowering shrubs when in season, varying its diet with insects. When they are in flower, it can always be found where Aloes of the *Aloë arborescens* group exist.

The males are rather pugnacious, especially in the breeding-season, and chase each other with swift and twisting flight, the metallic plumage shining in the sun. This species is seen in pairs, but more often singly. The call of both sexes is a loud chirrup, the males often indulging in a loud and not unmelodious song uttered from the top of some twig or shrub. I have not discovered an occupied nest.

The soft parts are:—Irides hazel; bill, legs and toes black.]

158. CINNYRIS MARIQUENSIS.

Tv. Klein Letaba, Sept. (1).

[This Sun-bird was only observed in the low country of the North-Eastern Transvaal, where it was decidedly scarce. The male of a pair was shot on the overhanging bough of an acacia, whence it continually darted out, apparently to catch some passing insect, and returned again to the same perch; between each flight it warbled quietly to itself. On the male being shot the female flew off and was not again seen.

The soft parts are:—Irides dark brown; bill, legs and toes black.]

158 *a*. CINNYRIS MICRORHYNCHUS.

P. Coguno, June, July, Aug. (7, all ♂ s); Masambeti, Nov. (1 ♂).

[This species was found only in the Inhambane and Beira districts of the Portuguese country. In the former locality it was plentiful, and came in numbers in company with other Sun-birds to the "caout-choue" and other trees that were in full flower around my Coguno camp. It has a quick darting flight, frequently hovering to gather the nectar from the blossoms. In the Beira district only a few were seen frequenting the blossoms of the cotton-plants in the plantations.

The soft parts are:—Irides dark brown; bill, legs and toes black.]

159. CINNYRIS LEUCOGASTER.

Z. Hluhluwe stream, Aug. (1 ♂, 1 ♀); **Tv.** Klein Letaba, Sept. (4 ♂, 3 ♀); Turfloop, Mch. (1 ♂); **P.** Tete, Aug. (1 ♂).

[The single male from Tete is slightly smaller than the other specimens.

This striking little Sun-bird was noted from S.E. Zululand, the Eastern and North-Eastern Transvaal, and the Tete district of Portuguese East Africa, where, however, only a single specimen was seen. It cannot be said to be plentiful anywhere, although a fair number were observed in the low country of the North-Eastern Transvaal. Apart from colour, in actions and flight it much resembles the other small Sun-birds, and is usually found around flowering trees and shrubs, especially the *Kigelia* and flowering Aloes (*Aloë arborescens*).

The soft parts are:—Irides dark hazel; bill, legs and toes black.]

159 *a*. CINNYRIS VENUSTUS NIASSÆ.

Reichenow, Vög. Afr. iii. p. 474.

P. Tambarara, Mch., Apl. (6).

This subspecies is distinguished from *C. venustus*, found in West Africa as far south as Gaboon, by the rich yellow of its under parts and the more orange and less crimson shade of its pectoral tufts. It was noted from Zumbo by Alexander, and Gazaland by A. L. Sclater and Swynnerton.

[Only found in the Gorongoza district, where it was not uncommon, and frequented the flowering climbers and shrubs, especially a species of honeysuckle. In flight it resembles the other small Sun-birds, but the call is somewhat sharper. The male often indulges in a sweet warble.

The soft parts are:—Irides dark brown; bill, legs and toes black.]

160. CINNYRIS AFER.

CC. Knysna, Jan., Feb. (17): **Z.** Sibudeni, Oct. (2); Jususie, Dec. (1); **Tv.** Woodbush, June, Dec. (2); Legogot, Apl., May (3).

["Zuiker-beccie" or "Zuiker-vogel" of Colonists (as are all Sun-birds).

When it is once assumed the males retain their metallic plumage throughout life, the yearly moult taking place in the autumn season—January to March. Young birds moult directly into the adult feathering in the autumn following the nesting-season. In the more northern localities this species appears to breed somewhat late, and two broods are sometimes reared, as birds in the first plumage were taken in May and June. Whether these late birds retain this plumage till the following autumn is not known; but it is probable that the adult stage is assumed in the spring following the winter in which they are hatched.

The Greater Double-collared Sun-bird was found in the Knysna district, Zululand, the Eastern and North-Eastern Transvaal, and was particularly plentiful in the two former localities. It is found both in the forests and on the open hill-sides, and feeds principally on the nectar of flowering plants and shrubs, especially Proteas and certain Aloes, in common with most of the other Sun-birds, varying its diet with small flies and insects, which also are taken from the flowers. The flight is swift, and it will often hover to extract the nectar from flowers. It is generally seen in pairs, though often solitary; the call is sharp and short, the males sometimes uttering a rather sweet warbling song from a twig or the top of a bush. Except for its size, which is not always striking, it cannot be distinguished from the two following species.

The soft parts are:—Irides dark hazel; bill, legs and toes black.]

162. CINNYRIS CHALYBEUS.

CC. Klipfontein, May, June, July (7); Port Nolloth, Aug. (1); slopes of Table Mt., Feb. (1); Durban Road, Mch., Sept. (6).

[The sequence of plumage in this species appears to follow closely that of *C. afer*. The Lesser Double-collared Sun-bird was noted only in Namaqualand and the Cape Peninsula, in both of which localities it is very plentiful; it was less common in the Knysna district. In these localities it feeds principally on the nectar of Proteas where they occur, flowering heather, and climbing plants, and is commonly seen around habitations taking nectar from the cultivated plants growing in the gardens and on the walls and porches: it is so tame and fearless that it has often been known to nest in the latter situations. In appearance and call it resembles *C. subalaris*.

The soft parts are:—Irides dark hazel; bill, legs and toes black.]

CINNYRIS CHALYBEUS SUBALARIS.

Reichenow, Vög. Afr. iii. p. 491 [Pondoland].

CC. Knysna, Dec., Jan. (7): Plettenberg Bay, Feb. (1); **Z.** Sibudeni, Oct., Nov., Dec., Jan. (11); **Tv.** Zuurbron, Apr., May (3); Woodbush, Nov. (3).

This form, recently described by Reichenow, cannot be considered anything but a slightly differentiated subspecies. It has a rather longer bill, averaging in six Zululand males 22·3 against 19·6 mm. in six Klipfontein males of the typical form. The lower breast is slightly washed with yellowish, which is absent in that of the typical form; but I am unable to distinguish the two subspecies by the under wing-coverts as is done by Reichenow.

The examples from Knysna are all juveniles or females and are difficult to determine; on the whole, I think that they come nearer to *C. subalaris*. In the British Museum examples from Durban, and from Macamac in the Transvaal, are referable to this subspecies, while those from Deelfontein are undoubtedly *C. chalybeus* proper.

[The sequence of plumage of this species appears to be coincident with that of *C. afer*. The Intermediate Double-collared Sun-bird was found in the Knysna district, Zululand, the South-Eastern and North-Eastern Transvaal. It was rather scarce in the Knysna district, which is probably its extreme western limit, but was the commonest of the Sun-birds in Zululand and in the South-Eastern Transvaal. It seems to be more partial to forest than either *C. afer* or *C. chalybeus*: but in general habits, flight, and call it exactly resembles them.

The soft parts are:—Irides dark brown; bill, legs and toes black.]

CINNYRIS NEERGAARDI. (Plate III.)

Claude Grant, Bull. B. O. C. xxi. p. 93 (May 1908). [Type, Coguno, Sept. 5.]

P. Coguno, July, Aug., Sept. (2 ♂, 1 ♂ *jr.*, 2 ♀).

This interesting little Sun-bird comes near *C. mediocris* and

C. reichenovi from East Africa, from which, however, it is readily distinguishable by the sooty-brown colour of the breast and abdomen. This character also at once distinguishes it from the other Double-collared Sun-birds of South Africa; it has, moreover, a very short bill, averaging 15 mm. What I take to be a young male, dated Aug. 3, is without the yellow tufts and has the abdomen greyish white. Two females in the series collected I can only distinguish from those of *C. chalybeus* by their short bills.

[This pretty little Sun-bird was only found in the type locality, where it could not be considered common; it frequented certain flowering climbers bordering the paths and roads and a large species of flowering tree growing near my camp, in company with the other species of Sun-bird. In flight and call it resembles *C. microrhynchus*.

The soft parts are:—Irides dark brown; bill, legs and toes black.]

163. Chalcomitra gutturalis.

Z. Umfolosi Station, July (1); Hluhluwe Stream, Aug. (1); **Tv.** Klein Letaba, Sept. (6); **P.** Coguno, June, Aug. (5); Masambeti, Oct. (1); Tambarara, Mch., Apl. (3); Tete, Aug. (1).

[The Scarlet-chested Sun-bird was noted from the coast country of Natal and Zululand, the low veld of the North-Eastern Transvaal, and the Inhambane, Beira, Gorongoza, and Tete districts of Portuguese East Africa. It seems to be more or less confined to the low "bush-veld" country, and is commonly found wherever *Kigelia* exists, from the crimson blossoms of which it extracts nectar, poised on rapidly beating wings. In the Inhambane district it feeds on this and the "caout-chouc" tree. Like most of the other Sun-birds, it varies its diet with insects. The flight is swift and darting, the call being loud and sharp, and the adult males sometimes indulging in a few warbling notes of a song.

The soft parts are:—Irides dark brown; bill, legs and toes black.]

166. CHALCOMITRA KIRKI.

P. Coguno, Sept. (2); Masambeti, Nov. (1); Tambarara, Apl. (1).

[This species was observed in the Inhambane, Beira, and Gorongoza districts of the Portuguese country, where it replaces the former species. In habits, call and flight it resembles *C. amethystina*.

The soft parts are:—Irides dark brown; bill, legs and toes black.]

164. CHALCOMITRA AMETHYSTINA.

CC. Knysna, Jan., Apl. (2); Plettenberg Bay. Mar. (1); **Z.** Sibudeni, Oct., Dec., Jan. (8); Jususie, Dec. (1); Umfolosi Station, July (2); Ngoye forest and hills, Sept., Oct. (2); **Tv.** Woodbush, Jan., Feb., June (6); Turfloop, Mch. (1); Legogot, May (2).

["Ncu-ncu" of Zulus.

The sequence of plumages of the male of this species seems to follow that of *C. gutturalis*.

The Black Sun-bird was noted from the Knysna district, where it was not plentiful, Natal and Zululand, and the Eastern and North-Eastern Transvaal. As a rule it frequents higher and more open country than *C. gutturalis*, feeding principally on the nectar of flowering Proteas and Aloes. In call and flight it resembles *C. gutturalis*, the females being indistinguishable from the females of that species unless observed at very close range or accompanied by males.

The soft parts are:—Irides dark brown; bill, legs and toes black.]

167. CHALCOMITRA FUSCA.

CC. Klipfontein, June, July (3); Anenous, June (1).

[Since the Central Cape Colony trip this Sun-bird has only been found in Namaqualand, where it was not uncommon, frequenting the bushes on the hill-sides and in the kloofs, and feeding on the nectar of flowering heaths and Aloes (*Aloë arborescens* and *A. dichotoma*); it was not noticed on the sand veld within ten miles of the coast.

The soft parts are:—Irides dark brown; bill, legs and toes black.]

168. CHALCOMITRA VERREAUXI.

N. Illovo, Nov. (2).

[Verreaux's Sun-bird was noted from Natal only. The pair obtained were shot at the edge of a patch of coast bush.

The soft parts are:—Irides dark brown; bill, legs and toes black.]

CHALCOMITRA VERREAUXI FISCHERI.

Reichenow, Vög. Afr. iii. p. 453. [Type from Mozambique.]

P. Coguno, Sept. (2).

This subspecies can be distinguished by its slightly paler colour below, and by its shorter bill, averaging 20·21 against 24·25 mm. in the typical form. It is a barely separable subspecies.

169. CHALCOMITRA OLIVACEA.

N. Illovo, Nov. (7); **Z.** Sibudeni, Jan., Oct. (5); Hluhluwe stream, Aug. (1).

Some of the specimens from Illovo possess an admixture of orange-red in the pectoral tufts, the differentiating character of *C. olivacea daviesi*, recently described by Haagner from Pondoland. I think it is doubtful if that subspecies can be maintained.

[Both sexes are found with cinnamon-coloured tips to some of the throat and upper breast-feathers. This may be due to great age, but cannot at present be proved.

The Olive Sun-bird was only found in Natal and Zululand, where it was plentiful, frequenting the edges of the coast bush, and in the latter locality occurring both on the open hill-sides among the Proteas and aloes and in the forests. It has an ordinary Sun-bird call and is usually found in pairs.

The soft parts are:—Irides dark brown; bill, legs and toes black.]

170. ANTHOBAPHES VIOLACEA.

CC. Table Mt. slopes, Jan., Feb. (2); Plettenberg Bay, Feb., Mch. (13).

["Zuiker-bekkie" or "Zuiker-vogel" of Colonists.

Found only in the Cape Peninsula and the Knysna, where it occurs among the heather-clad slopes of the mountains and hill-sides. It was especially plentiful in the latter locality and was in pairs. It feeds principally on the nectar of flowering heaths and Proteas. The call is a sharp "zwi," the male sometimes indulging in a warbling song; the flight is swift and erratic. I did not discover any occupied nest.

The soft parts are:—Irides hazel; bill, legs and toes black.]

171. ANTHOTHREPTES COLLARIS.

N. Illovo, Nov. (3); **Z.** Sibudeni, Jan., Oct. (2); Ngoye Hills, Sept., Oct. (3).

[This Collared Sun-bird was found only in Natal and Zululand, where it was very plentiful, generally being observed in pairs; it frequents low bushes and trees both on the outskirts of and in the woods and forests, and feeds on insects and nectar; I think more largely on the former than do other Sun-birds. It has rather a weak call, and no song that I have heard; it is very tame and confiding, often approaching so close that shooting is impossible.

The soft parts are:—Irides brown; bill, legs and toes black.]

172. ANTHOTHREPTES COLLARIS HYPODILUS.

P. Coguno, Sept. (2); Masambeti, Nov. (1); Beira, Dec., Jan. (2); Tambarara, Mch., Apl. (2).

[This form was found in the Inhambane, Beira, and Gorongoza districts of Portuguese East Africa, where it was by no means common, and frequented the lower bushes and trees in the woods and forests. In appearance, call, and general habits it resembles *A. collaris*.

The soft parts are:—Irides brown; bill, legs and toes black.]

ANTHOTHREPTES REICHENOWI.

Gunning, Ann. Transvaal Mus. i. p. 173.

P. Beira, Jan. (1).

This is a young bird without metallic colour or tufts. It is dark olive above and paler below, becoming pale yellow on the breast and abdomen. The wing measures 54 mm. It closely resembles *Anthothreptes seimundi*, a species recently described by Ogilvie-Grant from West Africa, which extends to the Semliki Valley in Central Africa.

I am inclined to identify it with *Anthothreptes reichenowi* Gunning, also from Beira, but I have not seen the types, which are in the Pretoria Museum.

[The single specimen obtained was solitary, and was shot among the tops of some small bushes in one of the many stretches of woodland which are a common feature of the Beira district. It was silent, and was apparently searching for insects among the branches.

The soft parts are :—Irides brown; bill, legs and toes horn-brown.]

173. ZOSTEROPS ANDERSSONI.

P. Coguno, Aug., Sept. (5) ; Tambarara, Mch. (2).

[This dainty little "White-eye" was only found in the Inhambane and Gorongoza districts of the Portuguese country. It was rather scarce in the latter locality, but was by no means uncommon in the former. It was usually observed in pairs or small parties of from four to six, never more; it frequented the tops of the larger trees, especially the "caout-chouc." Besides insects, which form its principal food, it pecks and eats a certain amount of wild fruit and enjoys the nectar of certain flowering trees. It is a very active bird and is continually uttering a low call-note.

The soft parts are :—Irides very pale brown; bill black, base of lower mandible whitish; legs and toes pale slate-coloured.]

174. ZOSTEROPS VIRENS.

Z. Sibudeni, Oct., Nov., Dec., Jan. (10) ; Ngoye Hills, Oct. (1) ; **Tv.** Wakkerstroom, Mch. (1) ; Zuurbron, May (11) ; Woodbush Hills, Nov. (11) ; Legogot, May (1).

[This was quite the commonest of the White-eyes and was noted in large flocks of twenty or more individuals in all the forest areas of Natal and Zululand, the South-Eastern, Eastern, and North-Eastern Transvaal. It was breeding in the North-Eastern Transvaal, and I saw several nests, all of which, however, contained newly hatched young. They were deeply cup-shaped and neatly composed of webs and moss, and were suspended by each end from an overhanging branch or creeper; they harmonized remarkably with their surroundings. In general habits this species resembles the other "White-eyes."

The soft parts are:—Irides pale brown; bill black, pale slate-coloured at base of lower mandible; legs and toes pale slate-coloured.]

175. ZOSTEROPS PALLIDA.

CC. Klipfontein, June, July (2).

I see no reason to reject Swainson's name, which dates from 1838, for this species. His description applies very well and is founded on an example from Dr. Burchell's collection, doubtless from the interior parts of Cape Colony.

["Glas-oogie" and "Wit-oogie" of Colonists.

The Pale White-eye was only found in Namaqualand, where it was observed on two or three occasions; it was always in small parties, and frequented the bushes and stunted trees in the kloofs and at the bases of the kopjes and mountains, generally near water. Its habits and call-note resemble those of *Z. capensis*.

The soft parts are:—Irides pale brown; bill pale slate-coloured; legs and toes pale bluish-slate-coloured.]

176. ZOSTEROPS CAPENSIS.

CC. Table Mt. slopes, Jan. (5); Durban Rd., Sept. (1): Knysna, Dec., Jan., Feb. (5).

Reichenow uses Swainson's name* "*annulosa*" for this species; I have carefully compared Swainson's description with examples of the Cape and Madagascar White-eyes, and cannot doubt that it refers to the latter species. I prefer therefore to use Sundevall's later name, founded on Levaillant's plate and description, in regard to which there can be no doubt at all.

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* *Sylvia annulosa* Swainson, Zool. Ill. iii. pl. 164 (1823).

["Glas-oogie" of Cape Colonists.

The Cape "White-eye" was found only in the Cape Peninsula and the Knysna, where it was very common, and frequented all wooded and forested localities, often in flocks of twenty to thirty individuals. It is an active and lively little bird, being continually on the move, searching every bush and tree diligently for insects, and uttering all the time a low pretty call-note in order to keep in touch with its companions in the thick vegetation.

The soft parts are :—Irides pale amber-coloured ; bill, legs and toes pale bluish-slate-coloured.]

177. PARUS AFER.

CC. Klipfontein, Apl., May, July (7) ; Port Nolloth, Aug. (1).

I think Mr. Grant must have been mistaken in his observation of this species in Zululand.

[Since the Central Cape Colony trip the Grey Tit has only been taken in Namaqualand, where it was common ; a single pair were seen at Sibudeni in Zululand. It is usually observed in pairs and frequents gardens and orchards and bushy kloofs. A very active species, it is continually on the move. Its call and alarm-note are similar to those of the European Great Tit (*Parus major*).

The soft parts are :—Irides hazel ; bill black ; legs and toes dark slate-coloured.]

177 *a*. PARUS CINERASCENS.

Tv. Woodbush, Jan. (2).

[The pair obtained in the North-Eastern Transvaal are the only examples that were seen of this species. They were shot in a well-timbered piece of country near the village. In habits, call, and soft parts it resembles *P. afer*.]

179. PARUS NIGER.

Tv. Woodbush, May, June (3), Klein Letaba, July, Aug., Sept. (6) ; **P.** Coguno, Aug. (2) ; Masambeti, Oct. (1) ; Beira, Feb. (2) ; Tete, Sept. (2).

[I have examined the type of *P. xanthostomus* of Shelley and find that it is a very young example of *P. niger*. This is borne out by two specimens from Beira, both of which are in the plumage of *P. xanthostomus* and are assuming the darker dress of *P. niger*. There is also a specimen from Durban, Natal, in the British Museum which shews this even more clearly. The Black Tit was not noted in Natal or Zululand, but was found in the Eastern and North-Eastern Transvaal, and the Inhambane, Beira, Gorongoza, and Tete districts of Portuguese East Africa. In the Inhambane and Beira districts it was by no means plentiful, but in the North-Eastern Transvaal it was especially so. It was observed in pairs and family-parties, and frequented the larger trees and the edges of the woods; it was active and continually on the move, searching every crevice of the bark and every branch for insects, while uttering at intervals its trilling call-notes, which reminded me, with its alarm-notes, of the European Great Tit (*Parus major*). In actions and habits it is a true Tit.

The soft parts are :—Irides dark brown ; bill black ; legs and toes dark slate-coloured. In the young the inside of the gape of the mouth is yellow, which disappears and darkens with age.]

182. ÆGITHALUS CAROLI.

Z. Umfolosi Station, Aug. (1) ; **Tv.** Woodbush, May (1) ; **P.** Coguno, July (1).

This Penduline Tit was only noted from Southern Zululand, the North-Eastern Transvaal, and the Inhambane district of the Portuguese country. In each of these localities it was only observed on one occasion and each time in small parties, which were diligently searching the bushes for insects and uttering a low call-note. It is an active little bird and in many ways reminded me of the *Zosterops*.

The soft parts are :—Irides hazel; bill, legs and toes slate-coloured.]

183. UROLESTES MELANOLEUCUS.

Z. Umfolosi Station, July (1) ; **Tv.** Klein Letaba, July, Aug., Sept. (8).

[" Iyuma " of Zulus. " Chilauli " of Tchangaans.

This bird was only seen in the south-eastern side of Zululand and the " bush veld " of the North-Eastern Transvaal. It was not common in the former, but was very plentiful in the latter locality, although somewhat wary. I have observed it only singly or in pairs, and it frequents the tops of trees or thorn-bushes, whence it catches its prey, which consists of insects, such as grasshoppers, usually on the ground. It has a strong, somewhat dipping flight; and the call, which is constantly repeated, is loud and rather harsh and is best interpreted by the Tchangaan native name.

The soft parts are:—Irides hazel; bill, legs and toes black.]

184. LANIUS COLLARIS.

CC. Klipfontein, May, June, July (7); Port Nolloth, Aug. (1); Table Mt. slopes, Jan., Feb. (2); Durban Rd., Mch., Sept. (4); Plettenberg Bay, Feb., Mch. (6).

One nest and three eggs taken at Durban Road, Sept. 24th.

LANIUS COLLARIS HUMERALIS.

Lanius humeralis Reichnw. Vög. Afr. ii. p. 609.

Z. Jususie Valley, Dec. (2); Umfolosi Station, Sept. (1); **Tv.** Wakkerstroom, Feb., Mch. (8); Woodbush, June (1); Legogot, Apl. (1).

This series very clearly shews the change from the grey-breasted typical form, which always retains slight traces of mottled marking underneath, to the pure white-breasted "*humeralis*" type.

[" Canaribyter," " Fiscaal," or " Goatsman " of Colonists. " Eqola " of Zulus.

The Fiscal Shrike was noted from Namaqualand, the Cape Peninsula, the Knysna district, Zululand, the South-Eastern, Eastern, and North-Eastern Transvaal. In the latter locality it was rare, only some two or three specimens being observed. It is usually seen sitting on the tops of bushes, posts, or other conspicuous positions; and wherever a pair have taken up their quarters a regular larder is found, insects of all kinds, from a fly to large grasshoppers, and often young birds, and on one occasion a frog, having been seen impaled on any convenient thorn-tree or sometimes on barb-wire fences. The call is harsh and loud, and the flight graceful, low, and undulating. It apparently breeds early, as eggs and fledged young birds were taken in September. I took the nest containing three eggs on the 24th of September, 1903, near Cape Town; it was composed of twigs of a common herbaceous plant interspersed with rag and string, and lined with fine grass and fibre; it was placed in the fork of an apple-tree some twelve feet from the ground in an orchard.

The soft parts are:—Irides hazel; bill, legs and toes black.]

187. LANIUS COLLURIO.

Tv. Woodbush, Dec. (1); Turfloop, Mch. (3); **P.** Beira, Dec., Jan. (4).

[I have not seen the Red-backed Shrike elsewhere than in the two localities where specimens were secured. In the Beira district it was very plentiful. It is usually observed sitting on stumps or posts of fences; it is very silent and by no means wild.]

189. NILAUS BRUBRU.

Tv. Klein Letaba, Aug. (3).

[This species was only observed in the "bush-veld" of the North-Eastern Transvaal, where it was not common, being only occasionally seen searching for insects among the branches and foliage of the Mopani trees.

The soft parts are:—Irides rich brown; bill, upper mandible blackish slate-coloured, lower paler slate-coloured; legs and toes slate-coloured.]

191. TELEPHONUS SENEGALUS.

Z. Umfolosi Station, Aug. (2); Ngoye Hills, Oct. (1); **Tv.** Klein Letaba, Aug., Sept. (4); Woodbush, Jan., June (3); Turfloop, Mch. (1); Legogot, May (1); **P.** Coguno, June, Aug. (3); Beira, Dec., Feb. (2); Masambeti, Oct. (1).

These birds are indistinguishable from West and East African examples. A young example has brown edgings to the black feathers at the top of the head.

["Nqupane" of Zulus.

The Black-headed Bush-Shrike was noted from Zululand, the Eastern and North-Eastern Transvaal, and the Inhambane, Beira, Gorongoza, and Tete districts of Portuguese East Africa. It was by no means plentiful in Zululand, but became more so to the northwards. It inhabits well-timbered country and frequents the thickets and patches of thorn and "Num-num"; it spends much of its time on the ground searching for insects, which are its principal food. The call is harsh and loud and a few hurried notes of a song are sometimes heard. The flight is quick and darting, usually only from bush to bush, the bird always disappearing straight into the middle of the cover.

The soft parts are :—Irides raw sienna ; bill blue-black ; legs and toes lightish slate-coloured. In the female and young birds the base of the lower mandible is pale horny.]

192. TELEPHONUS TSCHAGRA.

CC. Plettenberg Bay, Mch. (1).

[Only one specimen of this Bush-Shrike was observed, and this was shot on the ground at the edge of a thick patch of prickly bush on Seal Point at the eastern end of Plettenberg Bay. It was silent and very tame.

The soft parts are :—Irides hazel ; bill dark horn-coloured, somewhat lighter on lower mandible ; legs and toes slate-coloured.]

193. TELEPHONUS AUSTRALIS.

Tv. Klein Letaba, Sept. (1) ; Turfloop, Mch. (1).

[This bird was found only in the North-Eastern Transvaal, where it was decidedly uncommon. It resembles *T. senegalus* in habits and in the localities it frequents, but is, I think, much more silent.

The soft parts are :—

♀. Irides brown ; bill black or horn-brown ; legs and toes slate-coloured.]

194. TELEPHONUS AUSTRALIS CONGENER.

Telephonus minor Stark & Sclater, Bds. S. Afr. ii. p. 23.

P. Coguno, Sept. (1).

This is certainly the most southern record for this subspecies, hitherto only known to range to Tete, where it was obtained by Sir John Kirk.

[The one specimen taken of this bird was shot in a dense thicket, and was solitary and silent. It appears to exactly resemble *T. australis* in general habits &c.

The soft parts are :—Irides brown ; bill black ; legs and toes dark slate-coloured.]

195. DRYOSCOPUS CUBLA.

CC. Knysna, Dec., Jan. (2) ; **N.** Illovo, Nov. (9) ; **Z.** Sibudeni, Oct., Nov., Dec., Jan. (7) ; **Tv.** Klein Letaba, July, Sept., Oct. (6) ; Woodbush, Jan. (1) ; Legogot, May (2) ; **P.** Coguno, July, Aug. (3) ; Masambeti, Oct., Nov. (3) ; Beira, Dec. (1) ; Tambarara, Mch. (2) ; Tete, Sept. (1).

["Equmusha" of Zulus. "Capok-vogel" of Colonists.

This is one of the commonest of the Shrikes in all forested, wooded, or well-timbered country, and was noted from the Knysna, eastwards and northwards through Natal and Zululand, the Transvaal, and the Portuguese country to the Zambesi. It is by no means wild, and can always be seen pottering about the shrubs and bushes in pairs.

In the breeding-season the male looks remarkably pretty when shewing off, the puff-back being extended like a powder-puff and the wings dropped ; it will often also fly across from bush to bush, chasing the female, the wings being half dropped and rapidly quivering, and the feathers of the rump being extended to their fullest extent. All the while it utters its cheery notes, which cannot be easily rendered in English, but a quick pronunciation of the Zulu name gives an excellent idea of it.

It feeds principally upon insects, and the nests, of which I have seen several, though I have not succeeded in securing the eggs, are always placed in the fork of some shrub or small tree.

The soft parts are :—

♂. Irides orange-yellow; bill black; legs and toes slate-coloured.

♀. Irides pale yellow; bill, upper mandible blackish, lower whitish horn-coloured; legs and toes paler slate-coloured.]

196. Dryoscopus rufiventer.

CC. Table Mt. slopes, Jan., Feb. (2); Durban Rd., Mch., Sept. (4); Knysna, Jan., Apl. (2); Plettenberg Bay, Feb. (1); **Z.** Ngoye Forest, Sept. (2); **Tv.** Woodbush, Jan., June, Nov. (4); Legogot, May (1); **P.** Coguno, Aug., Sept. (2).

The examples from Coguno are both females and should perhaps be referred to the tropical form *D. rufiventer hybridus* recognised by Reichenow, if it can really be separated; but the Coguno females exactly match females from Durban Rd.

["Zwart-Canaribyter" of Colonists.

This Shrike was commonly noted from the Cape Peninsula, the Knysna, Zululand, the Eastern and North-Eastern Transvaal, and the Inhambane district of Portuguese East Africa. It frequents forests and well-timbered country, and, except when young are about, is found in pairs. It feeds principally on coleopterous insects, and never, I believe, attacks small birds.

The whistle-call "hoo-hoo" of the male, followed immediately by the answering call of "ku-ee" of the female, at once betrays its presence. It is skulking in habits, and the flight, when indulged in, is of short duration.

The soft parts are :—Irides hazel; bill black; legs and toes slate-coloured.

In the young, the bill is brownish black.]

198. Laniarius major mossambicus.

P. Beira, Nov., Dec., Jan. (4); Tete, Aug. (3).

The characters of the various subspecies of *Laniarius major* are by no means constant, but on the whole the Beira and Tete Shrikes seem referable to this form.

[This species was found only in the Beira, Gorongoza, and Tete districts of the Portuguese country. In habits and call it exactly resembles *L. rufiventer*. The soft parts are also the same.]

200. Pelicinius gutturalis.

CC. Klipfontein, Apl., May, June (6); Port Nolloth, Aug. (2); Table Mt. slopes, Feb. (2); Durban Rd., Mch. (2); Plettenberg Bay, Feb., Mch. (5); **Tv.** Wakkerstroom, Mch. (2).

A very young bird hardly out of the nest, marked Port Nolloth, Aug. 11th, is olive-green above and below, slaty grey, almost white, on the throat and centre of the breast. Young birds moult into adult plumage in February at Plettenberg Bay.

I think that we may conclude from a study of the above series that the nestling gradually acquires the green colour of the under parts and moults in autumn (February or March) into the adult livery.

["Bacbakiri" of Colonists.

The Bacbakiri Shrike was noted from Namaqualand, the Cape Peninsula, the Knysna district, and the South-Eastern Transvaal. It was common in the two former localities, but rare in the latter. It usually frequents the vicinity of farms, where it is found in the orchards and on the lands, and is fond of perching on walls or posts; it feeds principally upon beetles and other insects. Its general habits and call, so well described by Stark and Sclater, are too well known to need repetition.

The soft parts are:—Irides hazel; bill black; legs and toes dark slate-coloured.

In the young the irides are greyish; the bill is horn-brown, the gape yellow; and the legs and toes are pale brown.]

201. Chlorophoneus quadricolor.

P. Coguno, June, Sept. (3).

[I have only heard and taken this pretty Shrike in the Inhambane district, where it was not uncommon. It frequents the thickets, where its cheery call of three syllables readily betrays its presence. It is usually in pairs, and I am not sure that the first two notes are not the call of the male and the third that of the female. The alarm-note is a low "coop," and the bird often comes so close as it creeps about the bushes that shooting is impossible.

The soft parts are:—Irides hazel; bill black; legs and toes dull slate-coloured.]

202. CHLOROPHONEUS RUBIGINOSUS.

Z. Sibudeni, Nov. (1); Ngoye, Sept. (1); **Tv.** Woodbush, Nov., Dec. (6); Legogot, Apl. (1).

The example from Legogot, a female shot on April 23, is exactly similar to *C. maraisi*, described by me some years ago from Knysna. I have no doubt now that it is nothing but *C. rubiginosus* in the young plumage, an opinion to which I was inclined from the first, though I allowed for Mr. Marais' repeated assurances that he had shot both males and females in this plumage with the sexual organs fully developed. Mr. Grant's notes shew that he is of the same opinion as myself.

[The *C. maraisi* of W. Sclater is, I think, nothing but the first complete plumage of *C. rubiginosus*, but young birds from the nest with authenticated parent birds are required to finally decide the question. The bird was only noticed in Zululand and the North-Eastern Transvaal. It is a forest-haunting species and unless carefully looked for can be easily overlooked. I could not satisfactorily determine the call of this bird, as I never actually saw one in the act of calling.

The soft parts are:—Irides russet-brown; bill black; legs and toes pale slate-coloured.

Of the young bird (i. e. *C. maraisi*):—Irides dark brown; bill dark horn-coloured, pale yellowish at gape; legs and toes pale slate-coloured.]

205. CHLOROPHONEUS SULPHUREOPECTUS SIMILIS.

Reichenow, Vög. Afr. ii. p. 563.

Z. Umfolosi Station, July (1); **Tv.** Klein Letaba, Sept. (2).

This subspecies can be easily distinguished from the

West-African type-form, *C. sulphureopectus*, but I confess that I cannot distinguish it from the Orange-breasted Bush-Shrike of East Africa called *C. s. chrysogaster* by Reichenow.

[I have only found this species in the patches of dense thorn-bush scattered along the Umfolosi River in S.E. Zululand, and in the thickets bordering many parts of the banks of the Klein Letaba in the N.E. Transvaal. It is a skulking and rather wary bird and is seldom seen, but its whistling call can often be heard.

The soft parts are:—Irides dark hazel; bill black; legs and toes dark slate-coloured. In the ♀ the base of the lower mandible is palest.]

206. Malaconotus olivaceus starki.

P. Coguno, July, Aug. (3); Tete, Sept. (1).

[I have noted this Shrike from the Eastern and North-Eastern Transvaal and the Inhambane, Beira, and Tete districts of Portuguese East Africa. It usually frequents dense bush and thickets and is more often heard than seen, its peculiar note being unmistakable. This call is a soft sort of cluck followed by a long loud whistle, the bird as it emits the sound throwing back the head and opening the beak. It is probably always in pairs although only single individuals are usually observed.

The soft parts are:—Bill black; legs and toes slate-coloured.

A male from Tete has the bill pale brown with darker markings, and is probably immature.]

207. Nicator gularis.

P. Coguno, June (1); Tete, Sept. (1).

[The two birds secured are the only specimens I have seen of this species, and both were shot in the thickets. It appears to be a solitary and silent bird, and keeps to the lower branches of the trees and bushes in the densest scrub and thickets. It is not, I think, uncommon, but owing to its skulking and silent habits is easily overlooked.

The soft parts are:—Irides hazel; bill greyish brown; legs and toes slate-coloured. In the female the bill is much paler.]

210. SIGMODUS TRICOLOR.

P. Masambeti, Oct. (2); Beira, Dec. (6); Tambarara, May (3); Tete, Aug., Sept. (3).

[I have observed this species only in the Inhambane, Beira, Gorongoza, and Tete districts of the Portuguese country; it cannot, however, be considered plentiful, although it is often seen; it is at all times wary and difficult to secure. It frequents both open and ordinary forest country, keeping more to the tops of the larger trees than does *Prionops talacoma*, and I have not seen it hunting about in the native clearings. It is never found in such large flocks as that species, being usually seen in parties of six or eight. The call is somewhat different from that of *P. talacoma*, but when handled it snaps its beak as does that bird, and also when one is only wounded the others will return to see what has happened to their companions; on one occasion near Beira I secured a whole party of six by carefully keeping concealed.

I have not seen this bird nesting or even in pairs, but always in flocks, even when with young.

The soft parts are:—

Ad. Irides yellow; wattles round eyes dark tomato-red; bill tomato-red, tip yellow; legs and toes pale tomato-red, nails horny.

Imm. in changing plumage. Colours as in the adult, but the wattles round eye and bill paler.

Imm. Colours as in the adult, but wattles paler, and bill paler and more dusky.

Juv. Irides dark brown, eyelid slightly yellow; bill blackish brown, slightly yellow at gape; legs and toes pale yellow.]

SIGMODUS SCOPIFRONS.

C. Grant, Bull. B. O. C. xxi. p. 66; Reichenow, Vög. Afr. ii. p. 537.

P. Masambeti, Nov. (1).

This species, as noted by Grant, is new to the South African fauna. It has been since met with also by Sheppard (Journ.

S.A. O. Union, v. p. 30) in the neighbourhood of Beira, but it appears to be a rare species there.

It was first described by Peters from Mozambique, and this is its most southern limit hitherto; it goes north to Lamu in British East Africa.

[I have only once seen this species, when a flock of six individuals were observed in the tops of some trees in a strip of forest near the Masambeti Stream. In cry and habits it resembles *S. tricolor*, and it was only when I picked up the specimen shot that I discovered it was different. I did not again see the birds, although the locality was passed through on most days.

The soft parts are:—

Irides bright yellow, with a narrow outer ring of blood-orange; wattles round eye dark glossy slate-coloured, bare skin behind whitish; bill dark tomato-red, slightly yellow at tip; legs and toes orange, nails horny. The blood-orange ring on the outer edge of the iris is not noticeable till the lid is turned back.]

211. PRIONOPS TALACOMA.

Z. Ntambana Hills, Aug. (1); **Tv.** Woodbush, May, June (12); Klein Letaba, Aug. (3); Legogot, Apl. (2); **P.** Coguno, June, Aug., Sept. (6); Beira, Feb. (4); Tete, Aug., Sept. (5).

["Ipelufu" of Zulus.

The Helmet-Shrike was first seen in Zululand, where a small party of eight individuals was observed in a grove of "fever" trees at the southern end of the Ntambana Hills; it was not met with south or west of that locality. I have since noted it from the Eastern and North-Eastern Transvaal and the Inhambane, Beira, and Tete districts of Portuguese East Africa.

This species is undoubtedly migratory to a certain extent; and I at first thought that it was only a winter visitor to South Africa, as all the examples that I have taken or seen have been met with between April and September; but I find that there are five specimens in the British Museum from Damaraland, Matabeleland, Mashonaland, and the Transvaal, taken between November and January, which dispose of this theory. Therefore only local migrations take place, probably dependent on food or rain.

It was seen in the Woodbush, North-Eastern Transvaal, in May and June; but on my return from the Klein Letaba in October none were seen, although I was in the Woodbush from that month until February. And, again, although the summer months between October and March were spent in the Beira district, this species did not appear till the 10th of February, and the natives informed me it was usually absent during the Christmas months.

This Shrike is usually seen in parties of from six to twenty individuals in open forest country or native clearings, searching for insects of various kinds, which it catches both on the ground and among the foliage and branches; unless alarmed it does not usually frequent the tops of the trees. It is somewhat fearless and easily secured, and if by chance the wing of one is only broken and it is left or caught and made to call, the whole flock will return again and again, and many specimens can be shot. Its usual call is of several notes, somewhat liquid in tone, but not easily described, uttered continually both when sitting and flying. When handled it makes a sharp snapping with the beak.

The soft parts are:—

♀, *Zululand.* Irides pale Naples yellow; eyelid lemon-coloured; bill black; legs and toes yellowish brown.

♀, *N.E. Transvaal.* Irides pale lemon-coloured; eyelid lemon-chrome; bill black; legs and toes dull tomato-red.]

212. Crateropus jardinii.

Tv. Klein Letaba, July, Aug., Sept (6); Woodbush, May (1); Legogot, Apl., May (3).

213. Crateropus jardinii kirki.

P. Coguno, June (2); Masambeti, Nov. (1); Tambarara, June (1); Tete, Aug. (2).

Kirk's Babbler replaces Jardine's in the low veld and along the Zambesi. It is smaller, the wing of three males averaging

98 against 110 mm. in five males from the Transvaal, and the flanks are more distinctly washed with a pale rusty brown.

[This Babbling Thrush was not observed till the Transvaal was reached, but it was commonly seen in the Eastern and North-Eastern districts, and in the Inhambane, Beira, Gorongoza, and Tete districts of Portuguese East Africa.

This species is gregarious in habits, usually being found in flocks of a dozen or more individuals, and betraying its presence by its continual and loud cackling, which when the whole flock is calling can be heard at a considerable distance. It frequents well-timbered country, where it is partial to the thickets and undergrowth, and feeds principally upon insects. The flight is low and straight, and only from one sheltered position to another. I have not seen it otherwise than in flocks, and have not observed it breeding.

The soft parts are:—

Irides of two colours, inner ring orange-yellow, outer blood-orange; bill, legs and toes black.

In the young the irides are greyish yellow: bill, legs and toes blackish horn-coloured.]

217. PYCNONOTUS CAPENSIS.

CC. Klipfontein, Apl., May (3): Tokai, near Cape Town, Feb. (2); Durban Rd., Mch., Sept. (6); Plettenberg Bay, Mch. (1).

The single bird collected at Plettenberg Bay on March 9 is just finishing its moult, and has the tail-feathers strongly graduated; the outer pair are the shortest and do not reach beyond the toes, the others are all very regularly graduated to the central four, which are equal and of normal length.

["Geelgat" of Cape Colonists.

In Namaqualand, the Cape Peninsula, and the Knysna district of Cape Colony only, have I observed this species. It is very common in all three localities, and generally frequents cultivated lands and the vicinity of homesteads and villages; it does considerable damage to all kinds of fruit when in season; at other times it feeds on wild berries and probably to a certain extent on insects. Although I have often found the nests, I have not succeeded in obtaining the eggs. The call is a sharp "pine pine" continuously uttered.

The soft parts are:—Irides dark hazel; eyelid dark plum, powdered with white; bill and legs and toes black.]

219. PYCNONOTUS LAYARDI.

Z. Sibudeni, Nov. (1); Jususie Valley, Nov., Dec. (5); Umfolosi Station, Aug. (1); Hluhluwe Stream, Aug. (1); Ngoye Hills, Oct. (2); **Tv.** Zuurbron, Apl., May (3); Woodbush, Dec. (1); Klein Letaba, July, Aug., Sept. (4); Legogot, May (1); **P.** Coguno, July, Aug. (2); Masambeti, Nov. (1); Beira, Nov., Dec., Jan. (3); Tambarara, Mch., July (2); Tete, Aug. (1).

["Poativa" or "Isaponya" of Zulus.

Commonly observed in Natal, Zululand, the South-Eastern, Eastern, and North-Eastern Transvaal, round Pretoria, and in the Inhambane, Beira, Gorongoza, and Tete districts of Portuguese East Africa.

This is a very common bird everywhere, and does great damage to fruit. I do not believe that these Bulbuls are gregarious in the true sense of the word, though congregating at common feeding-grounds. The call is not unlike that of the Cape Bulbul. When alarmed or excited through the intrusion of banoks or snakes, this species is very noisy and will approach the object very close, keeping continually on the move and constantly raising and lowering the crest and jerking the tail up and down. It usually places its nest in the fork of a tree, but I have seen it sandwiched between the leaves of bananas.

The soft parts are:—Irides dark brown, no wattle; bill, legs and toes black.]

220. PYCNONOTUS NIGRICANS.

CC. Klipfontein, Apl. (2).

[Since the Central Cape Colony trip, this Bulbul has only been found in Namaqualand, where it is not nearly so common as *P. capensis*. It closely resembles that species in habits and call.

The soft parts are:—Irides red-brown, eyelid orange; bill and legs black.]

221. Andropadus importunus.

CC. Slopes of Table Mt., Jan. (1); Tokai, Feb. (1); Knysna, Dec., Jan. (5) : **Z.** Ngoye Hills, Sept., Oct. (1) : Sibudeni, Oct., Nov. (4) ; **Tv.** Woodbush, Nov. (3).

The examples from Cape Colony are of a perceptibly darker shade above and more ashy below; those from Zululand and the Transvaal are of a slightly brighter olive-green above and more yellow below, especially on the middle of the abdomen. I am not inclined, however, to give a new name to the Eastern bird.

["Bosch-fink" of Cape Colonists. "Umboni" of Zulus.

This is the commonest of the Bulbuls, and has been noted from every wooded locality visited from the Cape Peninsula, through Eastern and East Central South Africa, to the Zambesi.

It is essentially a bird of the woods and forests, and in many localities shy and difficult of approach, although it can always be seen and heard. Its favourite habit is to sit either on the topmost twig or just within the topmost branches of some tallish tree, and from these to give forth its well-known "song," which is composed of several repeated whistles, the last being very low and drawn out, and not heard unless at close quarters. It has a call somewhat like that of a Sparrow, but sharper.

The soft parts are :—Irides pale yellow or pale greyish yellow; bill, legs and toes blackish brown.]

223. Chlorocichla flaviventris.

N. Illovo, Nov. (1); **Z.** Ngoye Hills, Oct. (1).

This species, the type locality of which is Durban, appears to be confined to Natal and Zululand.

[Natal and Zululand are the only places where I have seen this Bulbul : it frequents the woods and forest and usually the thickest and densest parts. It is shy and retiring in habits, and, although its loud harsh alarm-note can often be heard, frequently at a distance of a few yards, it is seldom seen. It is, I believe, generally found in pairs, but, owing to the density of the localities it frequents, little could be learnt regarding its habits.

The soft parts are :—Irides reddish brown ; bill brownish ; legs and toes slate-coloured.]

224. CHLOROCICHLA OCCIDENTALIS.

P. Coguno, June (1) ; Beira, Jan. (1) ; Tambarara, July (2).

I can see no distinction between the type of this species, described by Sharpe from Ovaquenyama in Northern Damaraland, birds from the Upper and Lower Zambesi Valley, Nyasaland, and the examples here catalogued. In this I am in agreement with Reichenow. Shelley separated the Zambesi Valley birds as *C. zambesiæ*.

[This is the Eastern and Northern representative of *C. flaviventris*, and differs nowise from that species in call or habits. The soft parts are also similar.]

226. PHYLLASTREPHUS TERRESTRIS.

Phyllastrephus capensis Stark & Sclater, Bds. S. Afr. ii. p. 71.

CC. Knysna, Dec., Jan. (2) ; **N.** Illovo, Nov. (1) ; **Z.** Sibudeni, Nov., Dec., Jan. (6).

Owing to the fact that Mr. Richmond has discovered that Swainson's 'Birds of West Africa' was published three months previously to his 'Classification of Birds,' the name of this species has to be changed from *C. capensis* to *P. terrestris*. Both names, proposed by the same author, are founded on "le Jaboteur" of Levaillant.

A nestling hardly free from down is almost exactly similar to the adult in coloration.

[I have noted this bird from Knysna, Natal, and Zululand. It is essentially a woodland species, and is usually found in small parties ; it frequents the thick undergrowth, spending much of its time on the ground and scraping among the dead leaves, the rustle of which I have often mistaken for that of some large animal moving about. Unless disturbed it is silent, but when alarmed it utters a loud harsh note of "churr churr" (the r's being rolled), constantly repeated by the whole party.

The soft parts are :—Irides reddish brown ; bill brown, base of lower mandible slaty ; legs and toes livid.]

227. PHYLLASTREPHUS STREPITANS.

P. Coguno, Aug., Sept. (2); Beira, Dec. (2); Tambarara, June (3); Tete, Sept. (1).

[This species was found in the Portuguese country from the Inhambane district to the Zambesi. In habits, call, and soft parts it resembles *P. terrestris*.]

228. BLEDA FLAVOSTRIATA.

Z. Ngoye Hills, Oct. (3); **Tv.** Woodbush, Feb., May, Nov. (7).

[I have only found this Bulbul in the Ngoye Forest and Zululand and the forests of the Woodbush in the North-Eastern Transvaal.

It is usually found in small parties of about half a dozen in the depth of the forest, running about the limbs of the trees in search of insects, and much resembling a Woodpecker or Creeper; it often hangs head downwards on the upright sides of the trunks. Its flight is slow and undulating, and only from tree to tree, while the call is loud and clear. It is fearless and tame, and can generally be easily secured. I have not found it breeding.

The soft parts are:—Irides hazel; bill, legs and toes ash-coloured.]

229. PARISOMA SUBCÆRULEUM.

Tv. Turfloop, Mch. (1).

[This species was not seen in Namaqualand, although a careful look out was kept for it, and it was not till I reached the North-Eastern Transvaal that I came across it. There it is not common, and only some half a dozen individuals were observed; it is found only in the undulating country that extends round Pietersburg for many miles and there frequents the few bushes that exist, especially the little belts of thorns and dogwood that line the courses of the sand rivers. In habits and call it resembles *P. layardi*.

The soft parts are:—Irides very pale yellow: bill dark horn-coloured; legs black.]

240. Parisoma layardi.

CC. Klipfontein, Apl., May, June (6).

[Since the Central Cape Colony trip, Namaqualand is the only locality where I have seen this Tit-Babbler. It was there quite common and frequented the bushes both on the flats and in the mountains, but was not observed in the sand-belt near the coast. It is especially fond of the numerous kloofs, where the bush is always somewhat thicker. It is found singly or in pairs and is very active, carefully searching every branch for food; the flight is quick and jerky, and only from bush to bush. It has a sharp call-note, and the males often indulge in a sweet warble, which is uttered from the centre of a bush.

It was not, I think, breeding when I visited Namaqualand.

The soft parts are:—Irides pale yellowish white; bill black; legs and toes dark brown.]

231. Parisoma plumbeum.

Tv. Woodbush, June (1).

[The specimen secured is the only one of this species that I have seen; it was shot sitting on the post of some wire fencing near a bush-filled stream. It was solitary and did not call.

The soft parts are:—Irides pale yellow; bill dark brown, paler at base of lower mandible; legs and toes very dark slate-coloured.]

234. Phylloscopus trochilus.

Z. Sibudeni, Dec. 16 & 29, Jan. 23 & 24 (4); **Tv.** Woodbush, Jan. 9 & 15 (2).

[The Willow-Warbler visits South Africa in the summer season, and I have observed it in Zululand and the North-Eastern Transvaal at that time of year. In Zululand in January 1904 it was particularly plentiful, and its well-known call-note could be heard in every plantation and garden. In its winter-quarters it does not sing, its call-note alone betraying its presence.

The specimens taken were shot in December and January, and are all in moult. A male shot on the 9th of January is somewhat later than the others.]

CALAMOCICHLA ZULUENSIS.

Neumann, Bull. Brit. Orn. Club, xx. 1908, p. 96, and Nov. Zool. xv. 1908, p. 248.

P. Coguno, June (1 ♂).

This species closely resembles *C. gracilirostris* (described in part as *Bradypterus babaecula* Stark & Sclater, vol. ii. p. 102), but is distinguished by its smaller size, the wing measuring 76 against about 72 mm. Only two examples are as yet known—the present specimen, a male, dated June 29; and the type, a female in the Tring Museum, collected by the Woodward brothers at Eshowe in Zululand.

[This bird was not uncommon around Coguno, where it frequented the dense reed-beds along the rivers and on the swamps; but it was seldom seen, although always heard. It has all the habits and actions of an *Acrocephalus*, and its "Reed-Warbler" song could always be heard, especially on warm muggy evenings and throughout the early night.

The soft parts are:—Irides pale brown; bill brown, paler at base of lower mandible; legs and toes darkish brown.]

241. CRYPTILLAS VICTORINI.

CC. Knysna, Jan. (1 ♀).

[I have only once seen this species, when the specimen secured was taken. This was one of a pair that were creeping about some thick underwood in the depths of the Knysna forest. Both were uttering a low call-note.

The soft parts are:—Irides deep brown; bill, upper mandible blackish brown, base of lower pale brown; legs and toes brown.]

243. BRADYPTERUS BRADYPTERUS.

CC. Plettenberg Bay, Mch. (2); **Z.** Umfolosi Station, July (1).

[Zululand and the Knysna district are the only localities where I have taken this Reed-Warbler, but I have undoubtedly overlooked it elsewhere. It frequents long grass and reeds in swampy localities, and has much the habits of a true Reed-Warbler, sliding up and down the reeds and seldom flying. The call is loud and harsh, and it is probably this bird that I have heard in most localities visited where swamps or reedy rivers exist.

The soft parts are:—Irides hazel; bill, upper mandible dark brown, lower much paler; legs and toes brown.]

247. SCHŒNICOLA APICALIS.

Z. Umfolosi Station, Sept. (2).

This is a rare, or, at any rate, a very local, species in South Africa. The British Museum has examples only from Pinetown and Durban in Natal; but it was also recorded from Zululand by the Woodwards and from Mashonaland by Marshall and Swynnerton.

[The two birds brought home are the only specimens I have seen. Both were flushed in long grass growing in swampy ground bordering a lagoon.

The soft parts are:—Irides pale horn-coloured; bill, upper mandible dark horn-coloured, lower pale horn-coloured; legs and toes fleshy.]

249. EREMOMELA POLIOXANTHA.

Tv. Klein Letaba, July (1).

A rare bird, only known in South Africa from Swaziland (whence came Buckley's type), Komatipoort (*Francis*, in S.A. Mus.), and the Umfuli River, Mashonaland (*Jameson*).

[The specimen brought home is the only one I have ever seen; it was solitary, and was creeping about at the top of a large "wait-a-bit" thorn-tree on the banks of the Klein Letaba River.

Soft parts not recorded.]

252. EREMOMELA SCOTOPS.

Tv. Klein Letaba, Aug., Sept. (6); **P.** Tambarara, Mch. (1).

[This Bush-Warbler was noted in the "bush veld" of the North-Eastern Transvaal, where it was common, and the single specimen was taken from a small flock in the

Gorongoza forests in Portuguese East Africa. It was usually observed in small parties diligently searching for insects in the tops of the larger trees along the river-banks.

It is an active bird, keeping continually on the move and constantly calling; in this respect and in its movements it much resembles the White-eyes.

The soft parts are:—Irides very pale yellow; bill dusky black; legs yellowish brown; toes much paler.]

253. Camaroptera brachyura.

Cameroptera brachyura (Vieill.); Reichenow, Vög. Afr. iii p. 618.

Z. Sibudeni, Oct. (1); Umfolosi, Aug. (1); Ngoye Hills, Oct. (2); **P.** Coguno, Sept. (1).

["Imbuzana" (Little Goat-Kid) of Zulus.

I have noted this Warbler from Knysna, Natal and Zululand, and the Inhambane district of the Portuguese country. It is a woodland-haunting species, and is usually observed singly, creeping about the thick undergrowth and thickets. Its peculiar kid-like call is remarkably loud for so small a bird and is decidedly ventriloquial, while it is impossible to locate the bird by listening to it, and it is only by careful watching that it can at last be detected.

The soft parts are:—Irides yellow; bill black; legs and toes fleshy.]

255. Camaroptera griseoviridis.

Camaroptera brevicaudata Stark & Sclater, Bds. S. Afr. ii. p. 114.

P. Beira, May (1); Tambarara, May (1).

The birds from Beira and Tambarara undoubtedly belong to this widely spread tropical species, which seems to replace *C. olivacea* in the northern portion of Portuguese East Africa.

[This species was noticed sparingly in the Beira and Gorongoza districts, and frequented the undergrowth and thickets in the woods and forests. Its call, actions, and habits resemble those of *C. olivacea*.

The soft parts are:—Irides raw sienna; eyelid slightly yellow; bill black; legs and toes fleshy.]

256. SYLVIELLA RUFESCENS.

CC. Klipfontein, Apl., May, June, July (7); Durban Rd., Sept. (1); **Tv.** Klein Letaba, July, Sept. (2).

["Crombec" = Wry-beak of Colonists.

This species was found in Namaqualand, the Cape Peninsula, and the North-Eastern Transvaal. It was particularly plentiful in the former locality. Usually observed in pairs, sometimes singly, it frequents all bushed country and orchards and gardens, where it does no inconsiderable amount of good in clearing off insects. In actions, habits, and appearance it greatly resembles the European Wren (*Anorthura troglodytes*), the call and alarm-note being almost identical.

The soft parts are:—Irides raw umber; bill horny brown, paler at base of lower mandible; legs and toes brown.]

257. SYLVIELLA PALLIDA.

P. Tete, Aug., Sept. (2).

[Observed only in Tete, where it was scarce. In habits it resembles *S. rufescens*, except that the call and alarm-note are similar to those of *S. whytii*. The soft parts are similar to those of *S. rufescens*.]

SYLVIELLA WHYTII.

P. Masambeti, Oct. (3).

This species was described by Shelley from examples taken by Whyte (after whom it was named) at Zomba. Swynnerton ('Ibis,' 1907, p. 56, and 1908, p. 73) first recorded it from South Africa. He obtained it in Gazaland, S. Rhodesia. Since then it has been noticed by Sheppard near Beira (J. S.A. O. U. v. p. 32).

Its small size, buffy cheeks and superciliary stripes, and the absence of a black band through the eye separating these, distinguish it at once from the other two South-African species.

[This species was found near Beira, where it was decidedly scarce, only two pairs being observed. In habits and actions it resembles *S. rufescens*, but the call and alarm-note are sharper and clearer.

The soft parts are:—Irides rich brown; bill pale horny brown, much paler at base of lower mandible; legs and toes palish amber-brown.]

258. CRYPTOLOPHA RUFICAPILLA.

CC. Knysna, Jan., Feb. (5); **Z.** Sibudeni, Nov., Jan. (2); **Tv.** Zuurbron, May (3); Woodbush Hills, Nov. (2).

[" Nceti " of Zulus.

This little Flycatcher was common in the forests of the Knysna district, Zululand, and the South-Eastern and North-Eastern Transvaal, but was seen nowhere in the Portuguese country. I have only found it singly and in the depths of the forests, where it potters about from bush to bush searching for insects much like a Goldcrest (*Regulus regulus*); it has a single low call of "zip," constantly repeated.

The soft parts are:—Irides hazel; bill, upper mandible brownish black, lower pale yellowish; legs and toes dark brown.]

259. APALIS THORACICA.

N. Illovo, Nov. (1); **Tv.** Zuurbron, May (2); Woodbush, Nov. (4); Turfloop, Mch. (1).

[The Bar-breasted Warbler was noted only from Natal and Zululand, and the South-Eastern and North-Eastern Transvaal. It is a woodland-haunting species, and is usually observed in pairs creeping about in search of insects in the undergrowth and lower branches. It has a loud call for so small a bird, and often indulges in a wild warbling song. It is not an inconspicuous species, and cannot easily be passed over.

I have not found the nest or eggs.

The soft parts are:—Irides very pale yellow; bill black; legs and toes amber-brown.

In the young the irides are dirty white; bill dusky, very pale yellow at gape; legs and toes paler than adult.]

APALIS CLAUDEI. (Plate IV. fig. 2.)

W. Sclater, Bull. B. O. C. xxvii. Nov. 1910, p. 15.

CC. Knysna, Jan. (3); Plettenberg Bay, Mch. (1).

Hitherto two quite distinct species have been confused under the name of *A. thoracica*. The differences between the two are briefly as follows.

A. claudei.—Above dark slaty grey throughout, with the faintest perceptible wash of olive; ear-coverts slightly paler than the back, a black spot in front of the eye; below, throat white separated from the abdomen by a black transverse band; remaining under parts white in the centre, olive-brown on the flanks and under tail-coverts. Tail with two or three outer tail-feathers tipped with white, the outermost chiefly white.

Length about 130 mm., wing 50, tail 57, tarsus 20, culmen 13.

Type from Plettenberg Bay, a male killed March 12, 1905.

This species differs from *A. thoracica* in having the back dark slaty grey instead of olive-green and in the entire absence of any yellow on the lower side; the dimensions seem very similar. The sexes in both species are alike, and the young birds differ from the adults in the absence of the black chest-band.

In addition to those mentioned above, the British Museum contains examples of this new species from Knysna (*Andersson*, Dec. 2nd, 1865) and Grahamstown; while of *A. thoracica* there are examples from Port Elizabeth (*Rickard*), King William's Town (*Trevelyan*, May), Pinetown (*Ayres*, Mch., May, July, Oct., Nov., Dec.), the Drakensberg (*Butler*, Aug.), Macamac (*Barratt*), and Rustenburg (*Ayres*).

Apalis thoracica was founded on "Le plastron noir" of Levaillant, whose plate and description, as also those of Shaw and Nodder and Swainson, obviously refer to the yellow-bellied form from the east of Cape Colony and Natal. I have found no name to apply to the white-bellied form, and am therefore naming it after Claude Grant.

In the 'Catalogue of Birds' (vol. vii. p. 138) Sharpe suggests that the white-breasted form is the breeding-plumage, but the long dated series of the true *A. thoracica* from Pinetown in the British Museum Collection shews that this obviously cannot be the case.

Apalis ruddi. (Plate IV. fig. 1.)

Claude Grant, Bull. B. O. C. xxi. 1908, p. 93.

P. Coguno, Sept. 8 (1).

This new species, of which only one example was obtained, comes nearest to *A. griseiceps* Reich. & Neum., figured in the Journ. f. Orn. (1900, pl. 2. fig. 2), from Kilimanjaro. It differs from it, as also from *A. thoracica*, in its olive-green tail and in the absence of any white on the outer tail-feathers. It appears to be quite a distinct form.

[Only a pair of this Warbler was seen, the male of which was shot. They were creeping about some thick vegetation at the edge of a wood and were particularly tame, although when I fired the female disappeared and I was unable to again find her. They were uttering a low call and were diligently searching for insects; except for the conspicuous breast-band, they could easily be mistaken for *Euprinodes neglectus*.

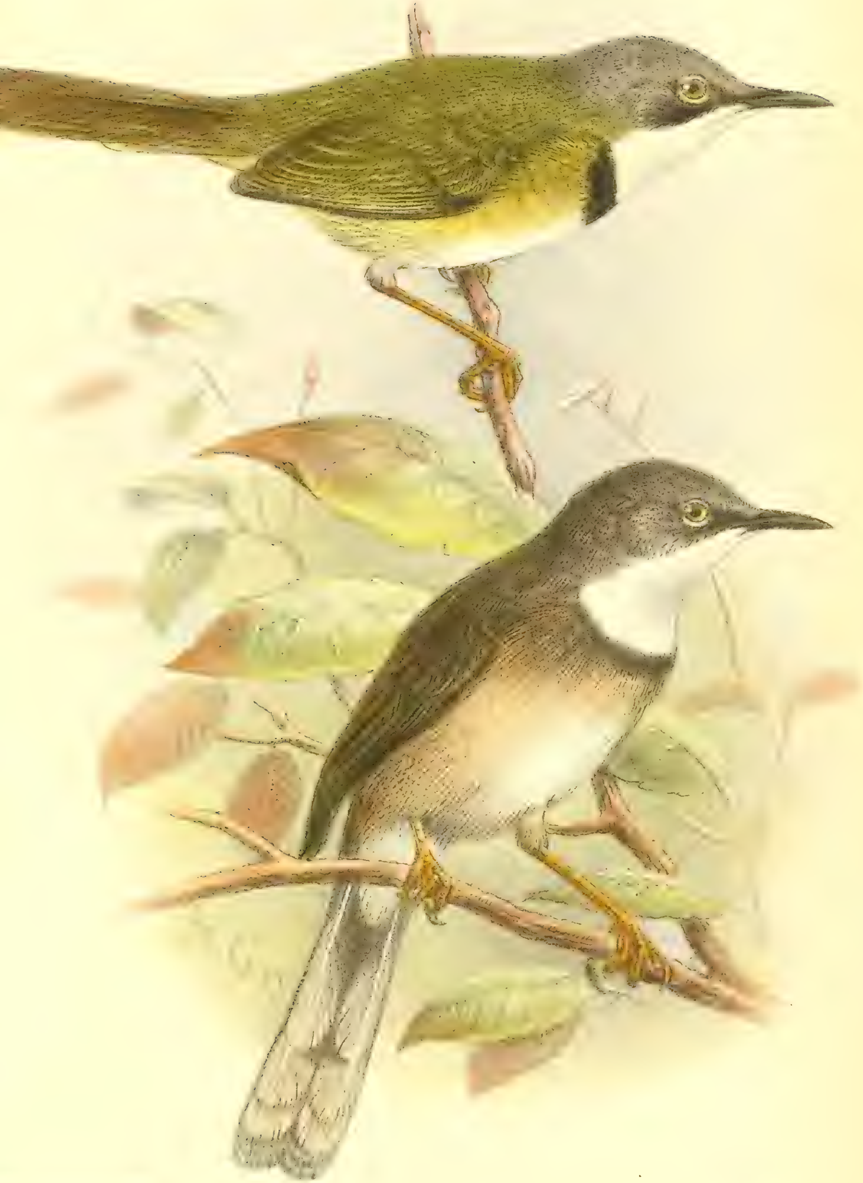
The soft parts are:—Irides amber-yellow; bill black; legs and toes palish brown.]

260. Stenostira scita.

CC. Klipfontein, Apl. (2).

[This graceful and dainty little bird is decidedly scarce in Namaqualand, which is the only locality where I have observed it since the Central Cape Colony trip. I saw three parties of three or four individuals; it frequents the bushes both on the flats and the mountain-sides, and is very active in its habits, diligently searching for insects after the manner of a Warbler. It has a quick jerky flight, usually only from bush to bush, and the call is Flycatcher-like, but sharper.

The soft parts are:—Irides hazel; bill, legs and toes black.]



[illegible] del.

1. APALIS RUDDI. [illegible]
2. [illegible]

262. Euprinodes florisuga.

Apalis florisuga Reichenow, Vög. Afr. iii. p. 610.

Z. Umfolosi Station, July, Sept. (2); **Tv.** Woodbush, Jan. (1); Klein Letaba, Sept. (3); Legogot, Apl. (1); **P.** Coguno, June, Aug. (4); Tambarara, May (1); Tete, Sept. (1).

This Bush-Warbler was first distinguished by Reichenow (Journ. f. Orn. 1898, p. 314), whose name it should bear. I cannot separate Alexander's *E. neglecta*, of which I have examined a typical example, from the ordinary South-East African form.

[This dainty little Bush-Warbler was noted from Zululand, the Eastern and North-Eastern Transvaal, and the Inhambane, Beira, Gorongoza, and Tete districts of Portuguese East Africa. It frequents both woods and forests and the ordinary "bush veld" country, where I have usually observed it in pairs, but occasionally in small parties.

Except for a low call-note it is a quiet and inconspicuous species, harmonizing wonderfully with the green foliage of the bushes, about which it actively creeps from branch to branch, diligently searching for insects, on which, I believe, it exclusively lives. It has a quick jerky flight as it moves from bush to bush.

The soft parts are:—Irides pale amber-yellow; eyelid pale orange; bill blackish brown; legs and toes palish brown.]

264. Dryodromas icteropygialis.

CC. Klipfontein, May, June (4).

[Since the Central Cape Colony trip this Warbler has only been noted from Namaqualand, where it is by no means plentiful. It frequents the bushes both on the flats and on the mountain-sides, and is usually found in small parties, diligently searching for insects, on which it feeds, and continually calling in a low note.

The soft parts are:—Irides bright yellow; bill blackish horn-coloured; legs and toes darkish brown.]

265. CALAMONASTES FASCIOLATUS.

Tv. Klein Letaba, Sept. (1); Turfloop, Mch. (1).

[On only two occasions have I seen this striking Wren-Warbler—once when a pair were seen hunting in the lower branches of a thorn-tree in the "bush veld" of the North-Eastern Transvaal, and again when a single female was seen and shot on a rocky kopje overgrown with a small euphorbia and thickets of "Num-num." It has a sharp alarm-note, and in habits and actions is not unlike the European Wren (*Anorthura troglodytes*).

The soft parts are:—

♂. Irides pale hazel; bill dark brown; legs and toes fleshy-brown.

♀. Similar to ♂, but greater part of the lower mandible pale brown.]

267. PRINIA HYPOXANTHA.

Tv. Woodbush, Nov. (2).

[The pair brought home are, curiously enough, the only specimens I have seen of this species. These were frequenting the long thick grass and vegetation bordering a mountain stream, and in appearance and call resembled *P. mystacea*. They were probably breeding, but I could not discover the nest.

The soft parts are:—Irides hazel; bill black; legs and toes pale brown.]

268. PRINIA MACULOSA.

CC. Klipfontein, May, June (4); Port Nolloth, July (1); slopes of Table Mt., Jan. (3); Plettenberg Bay, Feb., Mch. (2).

["Tentenki" of Colonists.

Namaqualand, the Cape Peninsula, and the Knysna district are the only localities in which I have seen the Cape Wren-Warbler. It is plentiful everywhere, and frequents the scrubby bush on the flats and hill-sides. It is an exceedingly lively and active little bird, and is generally found in pairs. It is often seen perched on the tops of the bushes, uttering at intervals a chirpy note and continually jerking the tail up and down; when creeping about among the vegetation the tail is held up, which gives the bird a perky and graceful appearance.

The soft parts are:—Irides light hazel; bill black; legs and toes palish brown.]

269. Prinia mystacea.

N. Illovo, Nov. (1); Jususie Valley, Dec. (3); **Tv.** Klein Letaba, Aug., Sept. (2); **P.** Beira, Jan., Nov. (2); Tete, Sept. (1).

[" Nceti " of Zulus. " Stini " of Ntebis.

This Wren-Warbler was noted commonly from Natal and Zululand, the Eastern and North-Eastern Transvaal, and the Beira, Gorongoza, and Tete districts of Portuguese East Africa.

Observed in pairs or small family-parties, it frequents the long grass and vegetation in vleis and swamps at the edge of woods and in old native clearings. It is an active and graceful little bird as it creeps and flits about in search of insect food, and often feeds on the ground; but when disturbed it always perches on the tops of the vegetation, uttering a sharp call and jerking the tail up and down. In this respect and other actions it closely resembles *P. maculosa* of the Cape Colony.

The soft parts are:—Irides pale brown; bill black; legs and toes pale brown.

270. Prinia flavicans.

Tv. Pietersburg, Feb., Mch. (3); Turfloop, Mch. (1).

[I only observed this bird on the flats around Pietersburg, where it was not uncommon and frequented the long grass in the valleys. Usually found in pairs, it is very active and lively in habits and much resembles *P. mystacea* in call and actions.

The soft parts are:—Irides raw sienna; bill black; legs and toes brownish flesh-coloured.]

271. Spiloptila ocularia.

CC. Klipfontein, Apl., July (3).

[" Tentenki " and " Klop-kloppie " of Colonists.

Namaqualand is the only locality where I have seen this species since the Central Cape Colony trip. It is an active little bird, usually found in pairs; it frequents the bushes everywhere, and spends much of its time searching for insects. It has a jerky flight and is very Wren-like in habits.

The soft parts are:—Irides grey-brown; bill black, base lilac; legs and toes brownish flesh-coloured.]

272. CISTICOLA FULVICAPILLA.

CC. Plettenberg Bay, Mch. (2); **N.** Illovo, Nov. (1).

This species is apparently confined to the southern part of Cape Colony and the coast lands of Natal. The British Museum contains examples from Swellendam, George, Knysna, King William's Town (Jan., Oct.), and Pinetown near Durban (Jan., Mch., May, June, July, and Oct.).

The specimens with buffy-whitish under parts, mentioned by Sharpe as being this species in winter dress and from the Transvaal, should be referred, in my opinion, to *C. cinnamomeiceps* recently described by Haagner.

[This little Grass-Warbler was noted from the Knysna district, where it was decidedly scarce, and Natal. It inhabits the long grass and vegetation in the vleis and bordering woods, and is usually observed in pairs. Its call is "weep weep," constantly repeated; in other respects and appearance it much resembles *C. subruficapilla*.

The soft parts are:—Irides pale amber-coloured; bill, upper mandible horn-brown, lower much paler; legs and toes palish brown.]

CISTICOLA CINNAMOMEICEPS.

Haagner, Annals Transvaal Mus. i. p. 197 (Jan. 1909).

Tv. Klein Letaba, July, Aug., Sept. (3); Legogot, Apl., May (2); **P.** Coguno, Aug. (2).

These little Grass-Warblers closely resemble *C. fulvicapilla*, with which, indeed, they have been hitherto confounded. The series of specimens of both forms now in the British Museum shew clearly that *C. cinnamomeiceps* cannot be the winter dress of *C. fulvicapilla*, as was supposed by Sharpe, but is its representative in the Transvaal and Rhodesia.

In the British Museum series there are skins from Potchefstroom (Jan., July), and Rustenburg (Feb., Apl., May, June, July, Aug.) in the Transvaal, Kanye (Jan.) in Bechuanaland, Matje Umschlope in Bulawayo (Nov.), and Umfuli River in Rhodesia, and Elephant Vley in German S.W. Africa. One skin from Pinetown taken in May also seems to be referable to this species, but perhaps this may be due to a confusion of label-tickets, as Ayres collected both in Pinetown and Potchefstroom.

273. CISTICOLA RUFICAPILLA.

Cisticola aberrans Stark & Sclater, Bds. S. Afr. ii. p. 143.

Z. Sibudeni, Nov. (1); **Tv.** Zuurbron, May (1); Woodbush, Jan., May (2); Turfloop, Mch. (1).

The oldest name for this bird is *C. ruficapilla* Smith, published in 1842. Fraser applied the same name to another species of the genus from West Africa in the following year.

[" Nceti " of Zulus.

Zululand and the South-Eastern and North-Eastern Transvaal are the only localities where I have taken this species; it is probable that it exists in the intermediate country, but it is extremely difficult to name these birds at sight, and, except where long periods are spent in a locality, they are often passed over, owing in many places to the density and length of the grass and vegetation at certain seasons.

Usually observed singly or in pairs, the bird frequents long grass in the valleys or thick vegetation bordering the woods and streams. Like the other Grass-Warblers, it has a weak flight, and when creeping about and just after perching it raises the tail and slightly spreads it. It feeds entirely on insects, and the call is a single weak chirp.

The soft parts are :—Irides raw sienna; bill horn-coloured, lower mandible pale slate-coloured; legs and toes amber-brown.]

276. CISTICOLA RUFA.

P. Beira, Jan., Dec. (3).

[" Stini " of Ntebis.

This species was only found near Beira, where it was not uncommon. I have only observed it singly; it frequents the long grass and vegetation in the vleis and the borders of woods and deserted native lands. It is very active in habits, the call being a sharp squeaky note: flight is seldom indulged in.

The soft parts are:—Irides raw sienna; bill brown, paler at base of lower mandible; legs and toes amber-coloured.]

278. CISTICOLA TINNIENS.

Tv. Woodbush, Nov. (7).

[Curiously enough, I have only seen this rather striking Grass-Warbler in the Woodbush Hills of the North-Eastern Transvaal, where it was quite plentiful and frequented the long grass and rough vegetation in the vleis and along the numerous streams. It is a very active bird and has a loud mellow call, and is usually observed in pairs. It was probably breeding in this locality, as it was the summer season, but no nests were discovered.

The soft parts are:—

♂. Irides hazel; bill black with, in most specimens, a spot of paler colour on the lower mandible; legs and toes amber-brown.

In the female practically the whole of the lower mandible is pale.]

279. CISTICOLA TERRESTRIS.

N. Illovo, Nov. (1); **Z.** Umfolosi Station, June, Aug. (5); **Tv.** Wakkerstroom, Mch., Apl. (2); Woodbush, June, Nov., Dec. (5); Pietersburg, Mch. (1); **P.** Masambeti, Oct. (1).

[The specimen with the long tail, shot on the 24th of October at Beira, is probably a late bird, and has not yet assumed the summer plumage. The female shot on the 20th of June at Woodbush is a remarkably pale specimen, but has all the markings of *C. terrestris*.

This little Grass-bird was noted from Natal and Zululand, and the South-Eastern and North-Eastern Transvaal. It is usually found in pairs, and frequents, more or less, open grass-country, spending most of its time on the ground. When flushed it rises with a jerky flight and utters several sharp notes.]

281. Cisticola subruficapilla.

CC. Klipfontein, Apl., June (3).

These skins appear to me to represent the true *C. subruficapilla*; I have compared them with the type of the species in the British Museum, and they agree with it very well.

The distinguishing characters are:—

1. The ashy-grey under parts become nearly white in the centre of the abdomen, but with no fulvous or rufous tinge.

2. The slaty-grey back has narrow and, as a rule, not strongly marked black centres.

3. The head is washed with rufous and gradually fades into the grey of the back, and is never in strong contrast to it; like the back it is streaked, but faintly and not conspicuously.

In the British Museum there are skins, in every way conforming to this type, from Cape Town (Nov.), Deelfontein (March, May, and August), Port Nolloth (July), and Piquetberg (Aug.).

It appears, therefore, to be confined to the western portion of Cape Colony, while its place is taken further east and north by the following.

281 *a*. Cisticola chiniana.

CC. Plettenberg Bay, Feb. (2): **Z.** Sibudeni, Oct., Nov., Dec., Jan. (4); Umfolosi, June, July, Aug., Sept. (8); **Tv.** Zuurbron, May (4); Woodbush, Nov. (2); Klein Letaba, Aug. (1); **P.** Coguno, June, Aug., Sept. (6).

This species varies a good deal in size. Two of the birds from Coguno, both males, and both taken the same month, measure as follows:—

(*a*) Length 135 mm.; wing 67; tail 61; tarsus 22; culmen 13.

(*b*) Length 118 mm.; wing 53; tail 50; tarsus 21; culmen 12·5.

Two males marked "Umfolosi," also both taken in June, are nearly as divergent in measurement. The birds killed in winter have the heads almost plain, while those killed in summer (November to January) have the heads strongly streaked.

283. Cisticola natalensis.

Summer dress—**Z.** Sibudeni, Nov. 1 (1); Jususie Valley, Dec. 1 & 6 (2); Ngoye Hills, Oct. 13 (1); **P.** Beira, Dec. 17, Jan. 27 (6).

Winter dress—**Z.** Umfolosi Station, June 25, Sept. 7 (10); **P.** Masambeti, Nov. 17 (1).

This series shews very well the great difference in appearance in this species in winter and summer—in fact, no one would imagine the birds were the same species, so distinct are they. I suspect that the bird alluded to by Haagner (Ann. Transvaal Mus. i. p. 229) as *C. strangei* is nothing but the summer dress of *C. natalensis*; indeed, I very much doubt if the true *C. strangei* of West Africa can be distinguished from *C. natalensis*, except as a subspecies.

The series also shews the great difference in size in the two sexes, a very characteristic feature. The wings of eight males average 70 mm., varying from 68 to 73, and of eight females average 58, varying from 55 to 61.

[" Nqojane " of Zulus.

I have only seen this large Grass-Warbler in Zululand and the Beira district of the Portuguese country. It is a conspicuous species, and cannot be easily overlooked. It frequents open marshy valleys and plains, and is particularly plentiful in the low-lying country near Beira. It is usually seen perched on the top of some twig or bush, and utters a loud call, especially in the early morning and late afternoon. On being disturbed it flies round the intruder, uttering a single note, but at other times I have seen it soar to some height, usually from the top of a bush, to which it again returns. It feeds on insects and, to a certain extent, on grass-seeds. I have not taken the nest.

The soft parts are :—

Winter. Irides pale brown; bill pale horn-coloured, round nostrils and along culmen darker; legs and toes amber-brown.

Summer. Bill practically black, white-horn-coloured on hinder side of lower mandible; legs and toes darker than in winter.]

HELIOLAIS KIRBYI.

Haagner, Ann. Transvaal Mus. i., Aug. 1909, p. 233.

P. Tambarara, Mch. (1 ♂).

To this recently described species from Boror I refer Mr. Grant's Gorongoza example, identified by him as *Orthotomus erythropterus* (Bull. B. O. C. xxi. 1908, p. 93), and also Mr. Swynnerton's Kurumadzi example from the frontier of Rhodesia and Mozambique ('Ibis,' 1908, p. 80), identified by him as *Heliolais erythroptera*.

This species differs from *H. erythroptera*, the type of which was taken on the Gold Coast, in the absence of the reddish shade of the upper parts and the much paler colour of the under parts. It is also rather smaller, the wing measuring 50 mm. against 56 in *H. erythroptera*.

[The Beira and Gorongoza districts of the Portuguese country are the only localities where I have seen this bird. It has much the habit and appearance of a *Cisticola* or *Prinia*, and haunts the long grass and low bushes like those birds; but the call-note is much sharper and louder than that of any of the Grass-birds found in these districts, and the red wings are conspicuous, both in flight and when the bird is sitting. It is not common, and often frequents such thick situations that it cannot be seen. Its call first drew my attention to it.

The soft parts are:—Irides pale yellow; bill horn-coloured, yellowish at base and gape; legs and toes amber-brown.]

290. SPHENŒACUS AFRICANUS.

CC. Table Mt. slopes, Jan., Feb. (5); Durban Rd., Sept. (1); Knysna, Apl. (1); Plettenberg Bay, Feb., Mch. (2).

["Vlei duiker" of Cape Colonists.

I have only found this bird in the Cape Peninsula and the Knysna district, in both of which localities it is common. It frequents the long grass and bush, both on the flats and the hill-sides, and is found either solitary or in pairs. It seldom flies, and when alarmed dives into the depths of the herbage, and is extremely difficult to flush. The flight, when indulged in, is weak and of short duration. The call is sharp and rather harsh, usually uttered from the top of a grass-stalk or stick. I have not discovered the nest.

The soft parts are:—Irides hazel; bill dark horn-coloured, lower mandible slaty in parts; legs and toes brown.]

292. SPHENŒACUS NATALENSIS.

Z. Sibudeni, Nov., Jan. (2); **Tv.** Wakkerstroom, Apl. (1).

["Gauge" of Zulus.

This species was only observed in Natal and Zululand and the South-Eastern Transvaal. In habits, &c., it exactly resembles *S. africanus*. The soft parts are also the same.]

SPHENŒACUS TRANSVAALENSIS.

C. Grant, Bull. B. O. C. xxi. 1908, p. 92.

Tv. Woodbush Hills, Nov., Dec. (type a ♂, Nov. 11, 1905, and 4 others). One nest with two eggs taken in the Woodbush Hills, Dec. 14th.

I can hardly regard this species as distinguishable from *S. natalensis*, which it replaces in the North-East Transvaal. The crown is perhaps a shade darker rufous and the lower parts are more ashy and less fulvous, but it is founded on very fine distinctions. Of the Transvaal examples in the British Museum one from Swaziland is distinctly referable to *S. natalensis*; two others, one from Rustenburg and one from the Swart Ruggens, also in the Rustenburg District, may perhaps be united to the present race. The eggs closely resemble those of the Cape species.

[I only found this Grass-bird on the hill-sides in the Woodbush Hills, where it frequented the long grass and rough herbage on the edges of the forests. In general habits, call, and flight it resembles other members of the genus. It breeds during the summer season, and I took the nest, containing two slightly incubated eggs, on the 14th of December, 1905. The nest, which was composed of fine grass with a few dead leaves interwoven on the outside, was cup-shaped and placed in the fork of a shrub in thick vegetation at the edge of forest; it was within a foot of the ground. Only the hen bird was observed, and she was secured.]

[To be continued.

IX.—*List of Birds collected in Argentina, Paraguay, Bolivia, and Southern Brazil, with Field-notes.* By CLAUDE H. B. GRANT, M.B.O.U.—Part II. PICARIÆ—ANATIDÆ *.

Fam. TROCHILIDÆ.

136. HELIOMASTER FURCIFER.

Heliomaster furcifer Salv. Cat. B. xvi. p. 119.

a. ♂ ad. Puerto Asir, Paraguay. Aug. 27, 1909.

Irides hazel; bill, legs and toes black.

137. POLYTMUS THAUMANTIAS.

Polytmus thaumantias Salv. Cat. B. xvi. p. 174.

a. ♂ ad. Puerto Asir, Paraguay. Aug. 27, 1909.

b, c. ♂ ♀ ad. Opposite Rabicho, Brazil. Oct. 10, 1909.

d. ♂ ad. Ten miles below Boca de Homiguera, Brazil. Oct. 12, 1909.

♂. Irides brown; bill dark red, black at base and along cutting-edge; legs and toes sooty.

♀. Irides brown; bill, legs and toes dark brown.

138. CHRYSURONIA RUFICOLLIS.

Chrysuronia ruficollis Arg. Orn. ii. p. 8; Salv. Cat. B. xvi. p. 251.

a. ♂ ad. Los Ynglases, Ajó. Sept. 26, 1908.
b. ♂ ad. „ „ Jan. 5, 1909.
c, d. ♂ ♀ ad. „ „ Apr. 17, 1909.
e. ♀ ad. „ „ May 5, 1909.

Irides dark brown; basal half of bill flesh-coloured.

f, g. ♂ ♀ ad. Puerto Asir, Paraguay. Aug. 27, 1909.

h. ♀ ad. Brazil, opposite Puerto Medanos. Oct. 22, 1909.

i. ♀ young. Curuzu Chica, Paraguay. Oct. 29, 1909.

The August birds are much worn and moulting slightly, while the September and October examples are almost in full plumage.

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* Continued from p. 137. The arrangement and nomenclature are nearly those of Sclater and Hudson's 'Argentine Ornithology' (as in Part I.).

The young bird is slightly duller than the adults, especially on the head, and the inner secondaries are tipped with dark buff. The base of the bill is not flesh-coloured.

The Bronze Humming-bird appears to be a winter visitor to the Ajó district, as it is absent during October, November, and December, and does not breed there.

When I first arrived I was told by residents that the Glittering Humming-bird often remained throughout the year; but there is no doubt than this species had been confounded with it.

Miss Runnacles "observed it in every month throughout the winter of 1909," and it disappeared soon after I arrived.

139. Chlorostilbon splendidus.

Chlorostilbon splendidus Arg. Orn. ii. p. 9; Salv. Cat. B. xvi. p. 49.

a. ♂ ad. Los Ynglases, Ajó. Sept. 27, 1908.
b. ♂ ad. " " Oct. 28, 1908.
c, d. ♀ ad. " " Nov. 9–17, 1908.
e. ♀ young. " " Dec. 14, 1908.
f, g, h. ♂ ♀ ad. " " Jan. 6–28, 1909.
i. ♀ young. " " Apr. 17, 1909.
j. ♂ ad. Arjerichi, Paraguay. Aug. 9, 1909.
k. ♂ ad. Villa Franca, Paraguay. Aug. 10, 1909.
l. ♂ ad. Near Santa Elena, N. Argentina. Nov. 15, 1909.

Irides dark brown; bill tomato-red, tip black; legs and toes black. In the female the base of the bill is not quite so bright.

The young female differs from the adult in being rather duller above, while the feathers have a more "woolly" appearance; most of the feathers, especially on the rump and nape, are edged with rufous, and they lack the colour at the base of the bill.

One of the specimens is green above and the other bronzy green.

The Glittering Humming-bird made its first appearance at Los Ynglases on Sept. 10th.

The nest is always placed in the lower branches of a coronillo tree facing the east, except when built under a veranda or summer-house near habitations.

I have the following note from Miss Runnacles :—

"One nest that was suspended from a wire under the eaves of the house was commenced in the early part of November, and when half finished the birds deserted it. After a month the pair returned and nearly completed the nest, when it was again left, and, finally, at the end of December they once more returned, completed the building, laid eggs, and brought off the young. They are very fond of human habitations and are often seen hovering round the windows catching insects, and if flowers are in the room they will come in through the windows and doors."

The nest is sometimes suspended, sometimes attached to the branch ; it is deep, cup-shaped, and composed of lichen and cobwebs lined with thistle-down, while two eggs are the full clutch.

Eight eggs brought home were taken at Ajó between November 12th and January 18th. They measure : axis 0·5 to 0·53 inch, diam. 0·33 to 0·35.

Fam. CAPRIMULGIDÆ.

140. NYCTIDROMUS DERBIANUS.

Nyctidromus albicollis Hartert, Cat. B. xvi. p. 587.

Nyctidromus albicollis derbyanus Hellm. Nov. Zool. xii. p. 297.

a, *b*. ♂. Albuquerque, Brazil. Oct. 1, 1909.

c. ♂. Riacho Paraguay Mirin, Brazil. Oct. 2, 1909.

Irides brown ; bill pale brown ; legs and toes plumbrown.

141. HYDROPSALIS FURCIFERA.

Hydropsalis furcifera Arg. Orn. ii. p. 15, pl. xii. ; Hartert, Cat. B. xvi. p. 599.

a. ♂ ad. Colonia Mihanovitch, N. Argentine. Aug. 12, 1909.

142. NYCTIPROGNE LEUCOPYGIA.

Nyctiprogne leucopygia Hartert, Cat. B. xvi. p. 619.

a, b. ♂ ♀. Porto Esperança, Brazil. Sept. 25, 1909.

Irides dark grey-brown; bill, legs, and toes brown.

The female resembles the male, but is not quite fully adult; it still retains some of the wing-feathers of the young plumage broadly tipped with reddish brown.

143. PODAGER NACUNDA.

Podager nacunda Arg. Orn. ii. p. 12; Hartert, Cat. B. xvi. p. 619.

a, b. ♂ ad. Albuquerque, Brazil. Oct. 1, 1909.

Irides brown; bill brown; legs and toes whitish brown.

144. NYCTIBIUS JAMAICENSIS.

Nyctibius jamaicensis Hartert, Cat. B. xvi. p. 625.

a. ♂. Near Puerto Braga, Paraguay. Sept. 23, 1909.

Irides orange; bill dark brown, edges olive; legs and toes olive-green.

Fam. PICIDÆ.

145. COLAPTES AGRICOLA.

Colaptes agricola Hargitt, Cat. B. xviii. p. 25; Chubb, Ibis, 1910, p. 277 (Paraguay).

a. ♂ ad. Riacho Ancho, N. Argentine. Aug. 1, 1909.

Irides crimson; bill dark slate-coloured; legs and toes ash-coloured.

A good many of these Woodpeckers were seen in the open grass-country feeding on the ground; when alarmed they flew into the forest and perched on the outside branches of the trees.

146. CHLORONERPES CHRYSOCHLORUS.

Chloronerpes chrysochlorus Hargitt, Cat. B. xviii. p. 72.

a. ♀ ad Tayru, Paraguay. Aug. 6, 1909.

Irides pale blue; bill dark slate-coloured; legs and toes green.

147. CHRYSOPTILUS CRISTATUS.

Chrysoptilus melanochlorus Hargitt, Cat. B. xviii. p. 110.

Chrysoptilus cristatus Chubb, Ibis, 1910, p. 279 (Paraguay).

a. ♂ ad. Alto Paraguay, Bolivia. Sept. 28, 1909.

This specimen agrees with *C. cristatus* in not having the black behind the red malar stripe; but is not quite so bright "yellowish olive" as the skin in the Museum collection; it is, however, much worn and faded.

148. CHRYSOPTILUS MELANOLÆMUS.

Chrysoptilus cristatus Arg. Orn. ii. p. 21; Hargitt, Cat. B. xviii. p. 112.

a, b. ♂ ♀ ad. Los Ynglases, Ajó. Sept. 12, 1908.
c, d. ♂ ♀ ad. „ „ Feb. 25, 1909.
e. ♀. „ „ Apr. 3, 1909.
f, g, h. ♀ ad. & young. Los Ynglases, Ajó. Dec. 11–29, 1909.
i. ♀ ad. Goya, N. Argentine. Nov. 13, 1909.

♂. Irides dark plum-coloured; bill black; legs and toes olive-green.

♀. Irides brown; bill blackish; legs and toes ash-coloured.

This common species seems slightly variable, some examples being considerably brighter than others, while some have less and others more markings below.

It spends as much time on the ground as in the trees and is often seen in the open camp a considerable distance from any woods. The nesting-hole is sometimes in a post, more often in a tree; I did not succeed in securing the eggs, but there are eleven in Miss Runnacles' collection taken at Ajó between October 10th and November 8th, 1909.

149. CHRYSOPTILUS NIGROVIRIDIS, sp. nov.

a. ♀ ad. Mortero, Paraguay. Aug. 13, 1909.

Irides brown; bill blackish horn-coloured; legs and toes ash-coloured.

Size rather larger than either *C. melanolæmus* or *C. cristatus*; above yellowish olive, not so bright as in *C. cristatus*; rump as in *C. cristatus*, but paler: a strong indication of black behind the malar stripe, though nothing like to the extent in *C. melanolæmus*, ear-coverts washed with golden buff; below yellowish olive, the chest strongly washed with orange.

This appears to be quite a distinct form, differing from *C. melanolæmus* in having a golden-yellow rump and being greener below; and from *C. cristatus* in having an indication of black behind the malar stripe, and by the orange on the chest.

The female is similar to the male, except for the malar stripe being black speckled with yellowish white.

Type. ♂ ad. Rio Pilcomayo. Collected by Prof. Graham Kerr on the 14th of April, 1890.

♀ ad. Mortero, Paraguay. Collected by G. W. Tucker and C. H. B. Grant on the 13th of August, 1909.

♂. Total length 11 inches; wing 6·25; tail 3·95; culmen 1·27; tarsus 1·0.

♀. Total length 10·5 inches; wing 6·0; tail 3·9; culmen 1·3; tarsus 1·0.

I have examined three males and a female collected by Prof. Kerr and a female obtained by myself.

150. Melanerpes candidus.

Melanerpes candidus Hargitt, Cat. B. xviii. p. 148; Chubb, Ibis, 1910, p. 280 (Paraguay).

a. ♂ ad. Sapetero Cué, Paraguay. Sept. 3, 1909.

Irides white; orbits lemon-yellow; bill dark slate-coloured, very dark at tip; legs and toes slate-coloured.

In rather worn plumage and moulting.

151. Dendrocopus lignarius.

Dendrocopus lignarius Hargitt, Cat. B. xviii. p. 257.

a. ♂ ad. Near Goya, N. Argentine. Nov. 13, 1909.

b. ♂ ad. Near Santa Elena, N. Argentine. Nov. 15, 1909.

Irides red-brown; bill slaty horn-coloured; legs and toes olive-green.

Both the specimens are in rather worn plumage; one of them was observed boring a nesting-hole in the limb of a tree about ten feet from the ground.

152. VENILIORNIS OLIVINUS.

Dendrobates olivinus Hargitt. Cat. B. xviii. p. 356.

Veniliornis olivinus Chubb, Ibis, 1910, p. 281 (Paraguay).

a. ♂ ad. Riacho Ancho, N. Argentine. July 31, 1909.

b. ♂ ad. Arjerichi, Paraguay. Aug. 9, 1909.

c. ♂ ad. Albuquerque, Brazil. Oct. 1, 1909.

Irides brown; bill slate-coloured, upper mandible dark; legs and toes slate-coloured or dark ash-coloured.

153. CELEUS KERRI.

Celeus kerri Hargitt, Ibis, 1891, p. 605 (Rio Pilcomayo); Chubb, Ibis, 1910, p. 282 (Paraguay).

a. ♂ ad. Santa Rosa, Paraguay. Aug. 14, 1909.

b. ♂ ad. Curuzu Chica, ,, Aug. 28, 1909.

c. ♂ ad. Pan de Azucar, Brazil. Sept. 17, 1909.

Irides red or crimson; bill white-horn-coloured; legs and toes slate-coloured.

These birds agree well with the specimens in the British Museum, and all are much worn.

154. PICUMNUS PILCOMAYENSIS.

Picumnus pilcomayensis Hargitt, Ibis, 1891, p. 606; Chubb, Ibis, 1910, p. 284 (Paraguay).

a. ♂ ad. Near Santa Elena, N. Argentine. Nov. 15, 1909.

Irides hazel; bill slate-coloured, upper mandible darker; legs and toes slate-coloured.

Fam. ALCEDINIDÆ.

155. CERYLE TORQUATA.

Ceryle torquata Arg. Orn. ii. p. 26; Sharpe, Cat. B. xvii. p. 121.

a. ♀ ad. Tayru, Paraguay. Aug. 5, 1909.

b. ♂ ad. Fuerte Olimpo, Paraguay. Oct. 21, 1909.

156. CERYLE AMAZONA.

Ceryle amazona Arg. Orn. ii. p. 27; Sharpe, Cat. B. xvii. p. 129.

a. ♂ ad. Tayru, Paraguay. Aug. 6, 1909.

157. CERYLE AMERICANA.

Ceryle americana Arg. Orn. ii. p. 27; Sharpe, Cat. B. xvii. p. 131.

a. ♂ ad. Riacho Ancho, N. Argentine. July 31, 1909.
b. ♂ ad. Sapatero Cué, Paraguay. Sept. 3, 1909.
c. ♂ ad. Riacho Ancho, N. Argentine. Oct. 3, 1909.

Fam. TROGONIDÆ.

158. TROGON VARIEGATUS.

Trogon variegatus Ogilvie-Grant, Cat. B. xvii. p. 468; Arg. Orn. ii. p. 29.

a. ♀ ad. Curuzu Chica, Paraguay. Aug. 28, 1909.
b. ♂ ad. Concurencia, „ Sept. 9, 1909.
c, d. ♂ ♀ ad. Puerto Maria, „ Sept. 13, 1909.
e. ♂ ad. Albuquerque, Brazil. Oct. 1, 1909.

♂. Irides brown, eyelid orange; bill pearly slate-coloured; legs and toes black, powdered with white.

♀. Irides hazel; bill, upper mandible brown, lower pearly; legs and toes brown.

159. TROGON SURUCURA.

Trogon surucura Arg. Orn. ii. p. 29; Ogilvie-Grant, Cat. B. xvii. p. 471.

a. ♂ ad. Colonia Mihanovitch, N. Argentine. Aug. 13, 1909.

Irides hazel, eyelid orange; bill blue-ash-coloured; legs and toes sooty.

Fam. CUCULIDÆ.

160. CROTOPHAGA ANI.

Crotophaga ani Arg. Orn. ii. p. 31; Shelley, Cat. B. xix. p. 429.

a. ♂ ad. Desaguadero, Paraguay. Aug. 29, 1909.

Irides brown; bill, legs, and toes black.

161. CROTOPHAGA MAJOR.

Crotophaga major Shelley, Cat. B. xix. p. 428.

a. ♂ ad. Near Villa Pilar, Paraguay. Nov. 7, 1909.

Irides pale Naples-yellow; bill, legs, and toes black.

Besides the specimen obtained, three or four individuals of this species were observed at Colonia Mihanovitch.

162. GUIRA PIRIRIGUA.

Guira piririgua Arg. Orn. ii. p. 32.
Guira guira Shelley, Cat. B. xix. p. 433.

a, b, c. ♂ ♀ ad. Los Ynglases, Ajó. Sept. 22, 1908.
d, e, f, g, h. ♂ ♀ ad. ,, ,, Apr. 5, 1909.
i, j, k. ♂ ♀ ad. ,, ,, May 13, 1909.
l. ♀ ad. Bella Vista, N. Argentine. Nov. 12, 1909.

The September and November birds are shewing signs of wear, and the April birds are moulting, the May specimens being in full plumage.

Irides orange; lores and orbits pale greenish yellow, bluish near the ear; bill dark orange, greenish yellow at base; legs and toes dull medium olive.

A common species, observed in parties of six or eight individuals.

163. DIPLOPTERUS NÆVIUS.

Diplopterus nævius Arg. Orn. ii. p. 35; Shelley, Cat. B. xix. p. 423.

a. ♂ ad. Cabo Emma, Paraguay. Oct. 20, 1909.

164. PIAYA MACRURA.

Piaya macrura Chubb, Ibis, 1910, p. 272.

a. ♂ ad. Tayru, Paraguay. Aug. 6, 1909.
b. ♀ ad. Pan de Azucar, Brazil. Sept. 17, 1909.
c. ♀. Boca de Homiguera, Brazil. Oct. 12, 1909.

Irides and orbits crimson: bill pale green; legs and toes slate-coloured.

The October bird is in a very pale phase, with only a wash of black on the tail.

Fam. RHAMPHASTIDÆ.

165. RHAMPHASTOS TOCO.

Rhamphastos toco Arg. Orn. ii. p. 40; Scl. Cat. B. xix. p. 125.

a. ♂ ad. Mortero, Paraguay. Aug. 13, 1909.
b. ♂ ad. Pan de Azucar, Brazil. Sept. 19, 1909.
c, d. ♀ ad. Coimbra, Brazil. Oct. 15, 1909.

Irides dark olive-green, broad ring round eye electric blue.

More commonly observed in the palm-country, in parties of from six to ten individuals, and, as a rule, perching on the tops of the trees, where it is not difficult of approach. In flight it bears a strong resemblance to the Hornbills.

Fam. PSITTACIDÆ.

166. CONURUS ACUTICAUDATUS.

Conurus acuticaudatus Arg. Orn. ii. p. 42; Salvad. Cat. B. xx. p. 172.

a. ♂ ad. Puerto Maria, Paraguay. Sept. 13, 1909.

Irides lemon-yellow, orbits flesh-coloured; bill, lower mandible dark, upper pale horn-brown: legs and toes pale yellow-horn-coloured.

167. CONURUS NENDAY.

Conurus nenday Salvad. Cat. B. xx. p. 179.

a, b, c. ♂ ♀ ad. Bahia Negra, Paraguay. Oct. 19, 1909.

Irides deep brown; bill and orbits black; legs and toes pale flesh-coloured.

This pretty Parrot was only observed at Bahia Negra, these three having been shot from a flock of five.

168. PYRRHURA CHIRIPEPÉ.

Pyrrhura vittata Salvad. Cat. B. xx. p. 214.

Pyrrhura chiripepé Salvad. Boll. Mus. Tor. n. 190, pp. 1–3 (1894); id. Ibis, 1900, p. 668.

a. ♂. Puerto Maria, Paraguay. Sept. 13, 1909.

Irides brown, orbits fleshy; bill dark horn-brown; legs and toes sooty-brown.

This specimen was shot from a flock of about eight. It has an unusual amount of red and yellow on the bend of the wing, but many specimens in the Museum collection have a coloured feather or two in this region, and it is probably only due to age.

169. MYIOPSITTACUS MONACHUS.

Bolborhynchus monachus Arg. Orn. ii. p. 43.

Myopsittacus monachus Salvad. Cat. B. xx. p. 231.

a. ♂ ad. Los Ynglases, Ajó. Sept. 10, 1908.
b, c. ♂ ♀ nestling. ,, ,, Dec. 14, 1908.
d, e, f. ♂ ♀ ad. & young. ,, ,, Mar. 1–19, 1909.
g. ♀ ad. ,, ,, Apr. 18, 1909.
h. ♂. Santa Rosa, Paraguay. Aug. 14, 1909.
i. ♀. Alto Paraguay, Bolivia. Sept. 28, 1909.
j, k. ♂ ♀. Puga, Brazil. Sept. 30, 1909.

Ad. Irides grey-brown; bill pale horn-coloured; legs and toes sooty.

Nestling. Irides hazel; bill, legs and toes very pale fleshy.

The March and April birds are moulting. The August and September birds are much worn. The young bird differs from the adult only in having the blue of the wings slightly less bright, the primaries and secondaries being more distinctly tipped, and the grey forehead being washed with greenish.

The northern birds appear rather smaller than the southern specimens, and I at first thought them distinct, but there is some individual variation, and in measurements they intergrade.

So many excellent notes have been written on the habits of this common Parrot that I can add nothing.

Seven eggs are in this collection, taken at Ajó on the 14th of December, 1908, when both young and eggs were found in the same nest. They measure: axis 1·1 to 1·16 in., diam. 0·8 to 0·83.

170. CHRYSOTIS ÆSTIVA.

Chrysotis æstiva Arg. Orn. ii. p. 47; Salvad. Cat. B. xx. p. 285.

Amazona æstiva Sharpe, Hand-l. ii. p. 20.

a, b, c. ♂ ♀. Pan de Azucar, Brazil. Sept. 17, 1909.

Irides orange, orbits pale yellow; bill blackish slate-coloured; legs and toes sooty-black.

The female is less bright than the male, and she and one of the males are much more worn than the third bird. All three have both red and yellow on the bend of the wing.

This species was commonly observed throughout the river expedition, usually in parties of six or eight individuals, screaming their loudest as they passed over the trees.

171. PIONUS MAXIMILIANI.

Pionus maximiliani Arg. Orn. ii. p. 217; Salvad. Cat. B. xx. p. 327.

a. ♂ ad. Tebicuari, Paraguay. Aug. 8, 1909.
b. ♂ ad. Santa Rosa, Paraguay. Aug. 14, 1909.
c. ♂ ad. Siete Puntas, Paraguay. Aug. 31, 1909.

Irides brown, orbit primrose-yellow; bill dark yellow; cere and culmen sooty; legs and toes sooty.

All the specimens are in winter plumage, the male from Tebicuari having a strong wash of lilac on the throat-feathers and being rather bigger. The other two have only a faint trace of the lilac, and in both the base of the lower mandible is dusky.

Very few individuals of this Parrot were observed; in flying it resembles an *Amazona*, but looks smaller and darker, and has a different call-note. It was also observed in Brazil.

Fam. STRIGIDÆ.

172. ASIO BRACHYOTUS.

Asio brachyotus Arg. Orn. ii. p. 49.
Asio accipitrinus Sharpe, Cat. B. ii. p. 234.

a. ♂ young. Los Ynglases, Ajó. Mar. 20, 1909.
b. ♂ ad. ,, ,, Jan. 23, 1910.

The March specimen is apparently young, as it is much richer in colour than the January bird.

This Owl was fairly common in all the rougher grass-lands, where it was flushed from the ground, and two that I put up left the remains of a half-eaten "Tuco tuco" (*Ctenomys*) behind them. It breeds in this district, the nest being a mere flattened place under a tuft of grass. I brought home three eggs, and there is a clutch of two in Miss Runnacles' collection, taken on the 28th of January and the 23rd of December respectively. They measure:—axis 1·5 to 1·61 in., diam. 1·29 to 1·3.

The nest was situated on the ground in a tuft of grass, and composed of a little dry grass.

173. Asio mexicanus.

Asio mexicanus Sharpe, Cat. B. ii. p. 231.

Asio clamator Sharpe, Hand-l. i. p. 280.

a. ♂ ad. Pasage de Bugre, Brazil. Sept. 29, 1909.

Irides brown; bill and nails dull black.

This is a rather paler specimen than the majority in the British Museum; it is rather worn, and perhaps a good deal faded.

174. Speotyto cunicularia.

Speotyto cunicularia Sharpe, Cat. B. ii. p. 142; Arg. Orn. ii. p. 52.

a, b. ♂ ♀ ad. Los Ynglases, Ajó. Sept. 29, 1908.
c, d, e, f. ♀ ad. „ „ Oct. 21–22, 1908.
g. ♀ ad. „ „ Nov. 1, 1908.
h. ♂ ad. „ „ Jan. 8, 1909.
i, j. ♀ ad. „ „ Feb. 1, 1909.

Irides clear pale yellow; bill pale green.

The January and February birds are moulting, the old feathers being much worn. Both the males are whiter below and less marked than the females.

This bird was exceedingly plentiful in the Ajó district, and was very tame. The excellent notes on its habits given by Hudson need no further additions.

The nesting-hole is usually made in sandy soil and is about three or four feet long: it is sometimes curved, more often straight, and never far below the surface of the ground, the end of the burrow being circular. Five or six eggs constitute the clutch. Most of the females secured were caught on the eggs, and offered no resistance when captured.

Thirty-nine eggs were brought home, taken at Ajó between October 22nd and November 1st, 1909, and measuring: axis 1·35 to 1·5 in., diam. 1·05 to 1·15.

Fam. FALCONIDÆ.

175. CIRCUS CINEREUS.

Circus cinereus Sharpe, Cat. B. i. p. 56; Arg. Orn. ii. p. 57.

a. ♂ ad. Los Ynglases, Ajó. Sept. 26, 1908.
b. ♂ ad. ,, ,, June 9, 1909.

Irides yellow; eyelids yellow; cere greenish yellow; bill slate-coloured; legs and toes bright lemon-yellow.

Both these examples are in full plumage: the June bird having a few brownish-edged feathers on the nape, but otherwise being like the September specimen.

This species is resident in the Ajó district, but by no means so plentiful as *C. maculosus.*

176. CIRCUS MACULOSUS.

Circus macropterus Arg. Orn. ii. p. 58; Holland, Ibis, 1897, p. 162.

Circus maculosus Sharpe, Cat. B. i. p. 62.

a. ♂. Luiconia, Ajó. Jan. 31, 1909.
b, c. ♀. Los Ynglases, Ajó. Feb. 14, Mar. 16, 1909.
d. ♂ ad. Luiconia, Ajó. April 29, 1909.
e, f. ♂ ♀ ad. Los Ynglases. May 13, 24, 1909.
g. ♀ ad. Alto Paraguay, Bolivia. Oct. 15, 1909.

The January and April birds are moulting. The March bird has the whole under parts suffused with deep buff, with streaks and narrow spots of black on the breast, and brown spots on the belly, thighs, and under tail-coverts.

177. ASTURINA PUCHERANI.

Asturina pucherani Sharpe, Cat. B. i. p. 205; Arg. Orn. ii. p. 58.

Rufornis pucherani Sharpe, Hand-l. i. p. 257 (1899).

a. ♀ ad. Riacho Ancho, N. Argentine. Aug. 1, 1909.
b. ♂ imm. Colonia Mihanovitch, N. Argentine. Aug. 11, 1909.
c, d. ♂ ♀ ad. & imm. Ten miles above Villa Pilar, Paraguay. Aug. 7, 1909.

Ad. ♀. Irides yellow, cere and orbits yellow; bill slaty, black at tip; legs and toes lemon-yellow.

Imm. ♂. Irides and cere lemon-yellow, orbits greener; bill slate-coloured, darker at tip; legs and toes lemon-yellow.

These birds agree with the remarks made by Mr. Chubb on the plumages of this Hawk, except that the adult female shot on Aug. 7th has five bars to the tail and an indication of a sixth.

Commonly observed throughout the river expedition, sitting both on the trees and on the banks.

178. ASTURINA NITIDA.

Asturina nitida Sharpe, Cat. B. i. p. 203.

a. ♂ ad. Puerto Maria, Paraguay. Oct 24, 1909.

Irides brown, orbits fleshy, cere and gape lemon-yellow; bill black, inclining to slate-coloured at base; legs and toes dull lemon-coloured, nails black.

179. BUTEO SWAINSONI.

Buteo obsoletus (nec Gm.), Sharpe, Cat. B. i. p. 184.

Buteo swainsoni Arg. Orn. ii. p. 59; Sharpe, Hand-l. i. p. 256.

a. ♂ young. Luiconia, Ajó. Nov. 14, 1908.

b. ♂ young. Los Ynglases, Ajó. Dec. 9, 1909.

One of these two males is more thickly marked on the breast than the other.

180. URUBITINGA ZONURA.

Urubitinga zonura Sharpe, Cat. B. i. p. 213.

Urubitinga urubitinga Sharpe, Hand-l. i. p. 258.

a. ♀. Tayru, Paraguay. Aug. 5, 1909.

b. ♀. Villa Pilar, Paraguay. Aug. 6, 1909.

181. BUSARELLUS NIGRICOLLIS.

Busarellus nigricollis Sharpe, Cat. B. i. p. 211.

a. ♀. Riacho Ancho, N. Argentine. Aug. 1, 1909.

b. ♀. Near Villa Franca, Paraguay. Nov. 6, 1909.

Irides brown; bill black; orbits and gape slate-coloured; legs and toes bluish white.

The female from Riacho Ancho is obviously younger than the other, as it has the chest-feathers broadly centred with blackish, and the feathers of the belly and thighs, especially the latter, barred with the same colour, as also is the rump.

This bird was always observed sitting in the trees overhanging water, though I never saw it catch anything.

182. GERANOAËTUS MELANOLEUCUS.

Buteo melanoleucus Sharpe, Cat. B. i. p. 168.

Geranoaëtus melanoleucus Arg. Orn. ii. p. 64.

a, *b*. ♂ ♀ ad. & imm. Los Ynglases, Ajó. Sept. 15, 1908.

c. ♀. Los Ynglases, Ajó. Feb. 25, 1909.

Quite an uncommon visitor to the Ajó district and usually frequenting the tall eucalyptus trees.

183. GERANOSPIZIAS CÆRULESCENS.

Geranospizias cærulescens Sharpe, Cat. B. i. p. 81; Arg. Orn. ii. p. 67.

a. ♀ ad. Riacho Ancho, N. Argentine. Aug. 1, 1909.

Irides yellow; bill black, slaty at base of both mandibles; legs and toes orange.

184. FALCO PEREGRINUS.

Falco communis Sharpe, Cat. B. i. p. 384.

Falco peregrinus Arg. Orn. ii. p. 67.

a. ♂ ad. Los Ynglases, Ajó. Dec. 20, 1909.

Irides deep brown; orbits, cere, legs, and toes bright lemon-chrome; bill dark slate-coloured at tip, greenish yellow at base.

185. FALCO FUSCO-CÆRULESCENS.

Falco fusco-cærulescens Sharpe, Cat. B. i. p. 400; Arg. Orn. ii. p. 69.

This Hawk is not represented in the collections made by me; but I have an adult female taken on the 27th of June, 1909, at Ajó, from Miss Runnacles' collection. This specimen is very much worn and new feathers are appearing on the nape and mantle.

186. TINNUNCULUS CINNAMOMINUS.

Cerchneis cinnamominus Sharpe, Cat. B. i. p. 439.

Tinnunculus cinnamominus Arg. Orn. ii. p. 69.

a. ♂ ad. Luiconia, Ajó. April 29, 1909.

Irides dark brown, orbits and cere pale lemon-coloured; bill pale slate-coloured, dark at tip; legs and toes rich lemon-coloured, claws black.

This specimen agrees with others in the British Museum, and tallies with the description given by Ridgway, having the tail tipped with rufous and the outer feathers unvariegated. In Miss Runnacles' collection there is a single male, also taken at Ajó, on the 15th of August, 1909, that agrees with the description by Ridgway of *C. australis*, having the tail tipped with white and the outer tail-feathers variegated.

This little Kestrel is only a winter visitant to the Ajó district; but the dates of its arrival and departure I do not know, as very few are seen. I only noticed three or four throughout the winter of 1909.

It is usually seen perched on the posts of the wire fencing or the tops of solitary trees, where it is, as a rule, easy of approach.

187. Elanus leucurus.

Elanus leucurus Sharpe, Cat. B. i. p. 339; Arg. Orn. ii. p. 71.

a. ♂ young. Los Ynglases, Ajó. Feb. 20, 1910.

Quite a rare bird in the Ajó district, and I only observed two individuals during my visits.

188. Rostrhamus sociabilis.

Rostrhamus sociabilis Sharpe, Cat. B. i. p. 327; Arg. Orn. ii. p. 72.

This Hawk is not represented in the collections made by me; but I have seen two young females and an adult male taken at Ajó, in the collection of Miss Runnacles.

189. Milvago chimango.

Ibycter chimango Sharpe, Cat. B. i. p. 41.

Milvago chimango Arg. Orn. ii. p. 74.

a. ♂.	Los Ynglases,	Ajó.	Sept. 14, 1908.
b. ♀.	,,	,,	Nov. 28, 1908.
c. ♂.	,,	,,	Feb. 14, 1909.
d. ♂.	,,	,,	Mar. 3, 1909.

The nest is placed either in the fork of a large tree or on the ground under a tuft of grass or a thistle, &c.; when in such a situation it is merely lined with a little wool or rubbish, but in trees the nest is composed of sticks and lined with grass or wool. Three eggs appears to be the complete clutch.

Ten eggs were brought home, collected between Nov. 4 and Dec. 28: they vary considerably in the arrangement of the markings, some being marked evenly all over and others having the bulk of the markings at the obtuse end.

190. Milvago chimachima.

Ibycter chimachima Sharpe, Cat. B. i. p. 39.

a. ♀ ad. Puerto San Juan, Paraguay. Aug. 26, 1909.

191. Polyborus tharus.

Polyborus tharus Sharpe, Cat. B. i. p. 31; Arg. Orn. ii. p. 81.

a. ♀ ad. Luiconia, Ajó. Nov. 19, 1908.
b, c, d. ♂ ♀ nestling. Luiconia. Nov. 19, 1908.
e. ♀ young. Los Ynglases, Ajó. Feb. 9, 1909.
f. ♀ young. „ „ Mar. 3, 1909.
g. ♀ ad. „ „ Mar. 20, 1909.

The adult female taken in November is in full plumage and very much worn; it was the parent of the three nestlings.

Irides brown, orbits and cere orange-chrome; bill pearly slate-coloured; legs and toes lemon-yellow, nails black.

The adult female, shot on March 20, is not really fully adult, inasmuch as the feathers of the breast are barred as in the old bird, but have broad white shaft-streaks; new feathers are appearing in this region, and these are as in the fully adult, while the hind-neck, ear-coverts, and fore-neck are more strongly tinged with rufous. This appears to point to an immature stage, intermediate between the young and fully adult bird.

I can add little to the excellent notes given by Mr. Hudson in the 'Argentine Ornithology,' except to say I have never seen one of these birds take living prey, and have always found them feasting on the carcases of dead stock in company with Chimangos and Gulls.

The nest is a large and often inaccessible structure of sticks, placed in a big tala or other tree, and I have heard of the bird breeding occasionally on the ground.

I did not obtain the eggs; but there is a set of three in Miss Runnacles' collection, taken at Ajó on Sept. 17, 1909; they are very dark with little of the ground-colour shewing, and measure: axis 2·42 to 2·5 in., diam. 1·79.

Fam. CATHARTIDÆ.

192. CATHARTES AURA.

Cathartes aura Arg. Orn. ii. p. 89.

a. ♀ ad. Tayra, Paraguay. Aug. 6, 1909.

Irides crimson; bare skin of head and neck bright yellow, rich chrome round eye, and bluish on crown and throat; bill deep flesh-coloured; legs and toes yellow, powdered with white.

Commonly observed in most localities on the river expedition, usually singly. It has a graceful easy flight, and hawks backwards and forwards after the manner of a Kite; it has a peculiar mewing call.

Fam. PHALACROCORACIDÆ.

193. PHALACROCORAX BRASILIENSIS.

Phalacrocorax brasilianus Arg. Orn. ii. p. 91.

Phalacrocorax vigua Grant, Cat. B. xxvi. p. 378.

a. ♀ ad. Tebicuari, Paraguay. Aug. 8, 1909.
b. ♀ imm. Monte Alto, ,, Aug. 25, 1909.

The adult bird is moulting, and has a few scattered white feathers on the head and neck.

Irides brown, orbits and lores sooty; bill horn-coloured, yellowish at base of lower mandible; legs and toes black.

The immature bird is also moulting, except for the wings, and is everywhere assuming the dark plumage, but the new feathers of the tail are still tipped with "brownish white."

Fam. PLOTIDÆ.

194. PLOTUS ANHINGA.

Plotus anhinga Grant, Cat. B. xxvi. p. 419.

a. ♀ ad. Tebicuari, Paraguay. Aug. 8, 1909.

b. ♀ juv. Mortero, ,, Aug. 13, 1909.

The adult is moulting on the under parts and tail.

Ad. Irides brown; orbit, lores, and bill pale yellowish; upper mandible horn-coloured; legs and toes dirty yellow, webs darker.

Young. Irides yellow; orbits and bill greenish yellow; legs and toes yellowish and sooty.

The Darter was commonly observed on the Rio Paraguay, and the further north we went the more plentiful it became: it was observed also on the Rio Paraná to the south of Corrientes; the last examples, three together on the 15th of November, were seen a few miles below La Paz, Northern Argentine.

Fam. ARDEIDÆ.

195. ARDEA COCOI.

Ardea cocoi Arg. Orn. ii. p. 93; Sharpe, Cat. B. xxvi. p. 72.

a. ♀ imm. Tuyu, Ajó. Feb. 12, 1909. In full moult.

Irides pale yellow; orbits and lores green, surrounded with black; bill and upper mandible black, lower pale yellow, greenish at base; legs and toes dull black, whitish on tibia.

196. ARDEA EGRETTA.

Ardea egretta Arg. Orn. ii. p. 98.

Herodias egretta Sharpe, Cat. B. xxvi. p. 95.

This species is not represented in the collections made by me, but I have an adult female in breeding-dress from the collection of Miss Runnacles, shot on November 8th, 1909, at Los Ynglases, Ajó.

Sparingly observed on the river expedition, and everywhere very wild.

197. Ardea sibilatrix.

Ardea sibilatrix Arg. Orn. ii. p. 100.

Syrigma cyanocephalum Sharpe, Cat. B. xxvi. p. 170.

a. ♂ ad. Tebicuari, Paraguay. Aug. 17, 1909.

Irides pale bluish grey; orbits and lores electric blue; bill lilac, tip black; legs and toes black.

This species was commonly observed on the river expedition in most of the swamps, usually in pairs; and, when disturbed, perched on the outermost branches of the trees. It has a low whistling note.

198. Butorides cyanurus.

Butorides cyanurus Arg. Orn. ii. p. 101.

Butorides striata Sharpe, Cat. B. xxvi. p. 175; Oates, Cat. Birds' Eggs Brit. Mus. ii. p. 126.

a. ♀ ad. Rabicho, Brazil. Oct. 8, 1909.

Irides rich lemon-coloured, orbits and top of lores greenish yellow, rest of lores and adjoining gape dull sooty black; bill black, lower basal half of lower mandible greenish yellow; legs and toes ashy-yellow, lemon-yellow at tibio-tarsal joints, behind tarsi, and soles of feet.

Commonly observed on the river expedition and frequenting the bush along the banks, usually singly.

When alarmed this bird has a curious habit of raising the feathers of the head and neck, and on taking wing it utters a harsh grating cry. I did not obtain it in the Ajó district, where it is very rare, though quite a number were observed there by Miss Runnacles during the summer of 1909, and I have an adult male and two adult females collected by her between October 24th and November 14th. It also bred there that year, and eight eggs are in her collection taken between November 9th and 28th.

These eggs are pale bluish green and measure: axis 1·50 to 1·55 in., diam. 1·1 to 1·19.

Miss Runnacles tells me that the full clutch of eggs consists of four, and that the nest is a small platform of dry durasnillo in a cañadon.

199. Ardetta involucris.

Ardetta involucris Arg. Orn. ii. p. 101; Sharpe, Cat. B. xxvi. p. 235; Oates, Cat. Birds' Eggs Brit. Mus. ii. p. 132.

a. ♀ ad. Los Ynglases, Ajó. Dec. 8, 1908.
b. ♀ young. „ „ Jan. 11, 1909.

Irides pale yellow; bill yellow-ochre, culmen horn-coloured; orbits greenish yellow; legs and toes grass-green; backs of tarsi and soles of feet yellow.

The young bird differs from the adult in having the sides of the head and neck washed with deeper brown; the striping of the back narrower with more golden-buffy edgings; the "chestnut" of the wing-coverts and bastard wing more vandyke-brown; the primaries and secondaries distinctly tipped with dusky, the innermost with the chestnut restricted along the shaft, the rest of the feathers being dusky, with the outer web edged with golden buff.

This species is common in the reed-beds in the Ajó district, but very difficult to shoot, as it seldom takes to flight. When alarmed it runs and climbs among the reeds with extraordinary agility, and its colour lends itself so well to the dry and brown reeds that it is soon lost to sight. It breeds in the Ajó district, and there are two eggs in Miss Runnacles' collection from a clutch of three. These are of a clear pea-green, and measure: axis 1·36 and 1·39 in., diam. 2·01 and 2·0.

The nest was a small platform of dry sticks in a cañadon.

200. Tigrisoma marmoratum.

Tigrisoma marmoratum Arg. Orn. ii. p. 104; Sharpe, Cat. B. xxvi. p. 195.

a. ♂ ad. Alto Paraguay, Bolivia. Sept. 28, 1909.

Irides lemon-yellow; bill, upper mandible dark purple-brown extending to the lores in two streaks, one to the eye and the other below the eye, the rest of the lores and orbits being lemon-yellow, as likewise are the bare cheeks; lower mandible dark purple-brown, fleshy along lower edge; bare skin of chin and sides of throat pale greenish lemon-yellow; legs and toes dark sepia-brown.

201. NYCTICORAX TAYAZU-GUIRA.

Nycticorax obscurus Arg. Orn. ii. p. 105.

Nycticorax tayazu-guira Sharpe, Cat. B. xxvi. p. 155.

This Night-Heron is not represented in the collection made by me; but there is an adult male in the collection of Miss Runnacles taken at Los Ynglases, Ajó, on the 17th October, 1909. I saw very few Night-Herons in the Ajó district, owing principally to the drought; they frequent the densest reed-beds, and on being disturbed utter a hoarse cry of "gua-gua." The bird is locally known as the "Perro de Agua" (water-dog), I presume from its cry.

It is very common on the Rio Paraná and Rio Paraguay, frequenting the thick bush along the river-banks.

202. CANCROMA COCHLEARIA.

Cancroma cochlearia Sharpe, Cat. B. xxvi. p. 163.

a, b. ♂ ad. Pasage de Bugre, Brazil. Sept. 29, 1909.

Irides dark brown, eyelids sooty-black above, greenish yellow below; bill, upper mandible black-horn-coloured, depression of nostril and cutting-edge dull yellow; lower dull yellow, black at base, skin below dull yellow; lores sooty; legs and toes dull yellow.

Both specimens are moulting slightly, and neither has the nuchal crest very long.

Fam. CICONIIDÆ.

203. EUXENURA MAGUARI.

Euxenura maguari Arg. Orn. ii. p. 106: Sharpe, Cat. B. xxvi. p. 297.

a. ♀ young. Luiconia, Ajó. Jan. 29, 1909.
b. ♀ ad. Tuyu, „ Feb. 12, 1909.
c, d. ♂ ad. Los Ynglases, Ajó. Mar. 16, 1909.
e. ♀ ad. Tebicuari, Paraguay. Aug. 7, 1909.

The young bird is moulting and assuming the adult plumage. The adults taken in February and March are moulting slightly.

Irides brown; lores sooty; bill black with lighter patches of horn-colour, chin dull orange; legs and toes dull purplish brown.

This species was commonly observed in all the localities visited ; it is resident and breeds in the Ajó district, where it frequents both the swamps and open camp singly or in pairs, and feeds largely upon frogs, toads, lizards, and eels. I did not succeed in obtaining the eggs ; but a set of five are in the collection of Miss Runnacles, taken on the 26th of October, 1909, at Ajó. These measure : axis 2·95 to 3·0 in., diam. 2·0 to 2·09.

The nest was in a deep cañadon, about three feet high ; it was made of sticks and dry hunco.

204. TANTALUS LOCULATOR.

Tantalus loculator Arg. Orn. ii. p. 108 ; Sharpe, Cat. B. xxvi. p. 321.

a. ♀ ad. Los Ynglases, Ajó. Mar. 11, 1909.

Irides dark brown ; bill dark bluish horn-coloured, vertex slightly red ; bare skin of head and neck black with white scales ; legs blue-slate-coloured ; feet whitish flesh-coloured.

Fam. PLATALEIDÆ.

205. PLEGADIS GUARAUNA.

Plegadis guarauna Sharpe, Cat. B. xxvi. p. 24 ; Arg. Orn. ii. p. 109.

a. ♀ ad.	Los Ynglases, Ajó.	Sept. 21, 1908.
b. ♀ ad.	,, ,,	Feb. 24, 1909.
c, d, e. ♂ young.	,, ,,	Jan. 25, 1909.
f. ♀ ad.	,, ,,	April 23, 1909.
g. ♀ ad.	,, ,,	Jan. 18, 1910.
h. ♂ imm.	Tebicuari, Paraguay.	Aug. 8, 1909.

The adult in September is in breeding-dress.

Irides rich red ; orbits, lores, and throat crimson ; bill ashy ; legs and toes dark purple, dull crimson at joints.

The adults taken in January, February, and April are all assuming the winter-dress, the under parts apparently changing to the colour of the following specimen.

Irides crimson, lores and chin crimson ; bill ashy, tip reddish ; legs and toes dark purple.

This is the common Ibis of the Ajó district, and was observed everywhere on the Rio Paraná and Rio Paraguay. In the Ajó district it apparently does not breed, and the majority disappear for a short time between September and January, the few that remain being probably immature. I was told that it breeds plentifully at Tandil to the southward, but I was unable to authenticate this.

The habits have been too well described by Hudson to need further notes.

206. PHIMOSUS INFUSCATUS.

Phimosus infuscatus Sharpe, Cat. B. xxvi. p. 26; Arg. Orn. ii. p. 113.

a, b. ♂ ♀ ad. Santa Rosa, Paraguay. Aug. 14, 1909.

Irides brown; bare skin on head pink-flesh-coloured; bill, legs and toes ashy brown.

Flocks of this Ibis were observed on the river expedition, and on one occasion I dropped nine with one shot.

207. AJAJA ROSEA.

Ajaja ajaja Sharpe, Cat. B. xxvi. p. 52.

Ajaja rosea Arg. Orn. ii. p. 114.

a. ♂ ad. Los Ynglases, Ajó. Nov. 28, 1908.
b, c. ♀ ad. ,, ,, Dec. 4, 1908.
d. ♂ ad. ,, ,, Dec. 18, 1909.
e. ♀ ad. Los Violetas, Monsalvo. Jan. 30, 1910.
f. ♀ ad. Tebicuari, Paraguay. Aug. 8, 1909.

The November bird is in full breeding-dress.

Irides red; lores and orbits yellow-ochre; bare part of head from forehead to crown pale Naples-yellow; occiput and below ear sooty-black; around orifice of ear pale Naples-yellow: skin of chin and throat admixture of pale Naples-yellow and yellow-ochre; bill clear ashy, somewhat sooty between corrugations at base; legs dull crimson-lake, feet sooty-black.

The August bird is moulting into the summer plumage, and the January one is moulting into the winter dress.

The soft parts are as above, except that there is no black on the occiput.

It has not, I think, been noticed before that the feathering of the neck in winter is thicker and longer than in summer, being interspersed with *longish* down, while the lower throat and occiput are covered with *short* close-set down.

The December birds are in a rather curious stage of plumage; they are in full summer dress, though the upper back and breast are paler than in other specimens. The greater part of the neck is covered with *short* thick down, the whole lower neck is in moult and the new feathers are appearing in two tracts up each side of the neck, leaving the throat and a tract down the front of the neck, and the occiput and a tract halfway down the back of the neck, covered with the down. The soft parts are as in the August and January birds. The August bird shews traces of having had a somewhat similar state of feathering.

These birds are quite adult, as is shewn by the deep corrugations on the beak, and amongst the large series in the British Museum I can find no specimens that help to explain why they have donned this state of dress.

Fam. PHŒNICOPTERIDÆ.

208. PHŒNICOPTERUS IGNIPALLIATUS.

Phœnicopterus ignipalliatus Arg. Orn. ii. p. 117.

a. ♂ ad. Los Ynglases, Ajó. June 12, 1909.

Irides opaque pinky white; orbits and bill opaque pinky white, apical half black; legs violet-grey, joints, toes, and webs carmine.

Fam. PALAMEDEIDÆ.

209. CHAUNA CRISTATA.

Chauna chavaria Arg. Orn. ii. p. 119.

Chauna cristata Salvad. Cat. B. xxvii. p. 6.

a, b. ♂ ♀ ad. Los Ynglases, Ajó. Oct. 3–13, 1908.
c, d. ♂ ♀ ad. „ „ Feb. 19, 1909.

♀. Irides dark brown; orbits and cere pink-flesh-coloured; bill pale horn-coloured; legs and toes medium salmon-coloured.

♂. Irides pale brown.

Twenty eggs of this Screamer were brought home, taken between September 11th and October 13th, 1909, at Ajó; five, rarely six, being the complete clutch; they are of a creamy white or pale bluish white, and measure: axis 3·2 to 3·72 in., diam. 2·11 to 2·27.

The nest-sites are in swamp and composed of reeds and hunco.

Fam. ANATIDÆ.

210. CHLOËPHAGA POLIOCEPHALA.

Chloëphaga poliocephala Salvad. Cat. B. xxvii. p. 137.

Bernicla poliocephala Arg. Orn. ii. p. 124.

This Goose is not represented in the collections made by me, but there is a male as well as a female in the collection of Miss Runnacles, taken on the 29th of June, 1909, at Los Ynglases, Ajó.

The female is adult and is moulting, except the wings and tail, the old feathers shewing much signs of wear.

The male is a young bird moulting, except for the wings and tail, into the adult dress. The old feathers on the chest and back are all the barred feathers of the young bird; the wing lacks the glossy speculum, and a few barred feathers remain on the breast.

The notes on this species are included in those on *C. rubidiceps*.

211. CHLOËPHAGA RUBIDICEPS.

Chloëphaga rubidiceps Scl. P. Z. S. 1860, p. 415, pl. clxxiii.

a, *b*. ♂. Laguna de Milan, Ajó. May 16, 1909.

Irides dark brown; bill black; legs and toes dark yellow and black.

There are also two males in Miss Runnacles' collection, taken on the 29th of June in the same year; one of which is moulting very slightly on the body. Two of these four birds have the cinnamon colour of the abdomen extending to the breast, and the heads are rich and dark in colour; these I take to be fully adult birds. The other two have the cinnamon colour only on the abdomen, and the heads are less rich and lighter in colour; these I take to be younger birds, though they have the speculum on the wing as in the adult specimens.

This Goose had not been seen in the Ajó district for many years until the winter of 1909. A good many made their appearance in the middle of May, and several hundreds had arrived before I left in the middle of June.

I was afterwards informed by Miss Runnacles "that in company with *Chloëphaga poliocephala* they came in their thousands and literally covered the camp, being most unwelcome visitors, as the drought had caused a scarcity of grass and these flocks of Geese helped to eat what was left; they began to thin out towards the end of July, and by the middle of August hardly one remained."

This Goose is locally known as the "Pato de la sierra" (Hill duck). Strange or rare birds in that district are always said to be visitors from the sierras.

212. Cygnus nigricollis.

Cygnus nigricollis Arg. Orn. ii. p. 124.

Cygnus melancoryphus Salvad. Cat. B. xxvii. p. 39.

a. ♀ ad. Los Ynglases, Ajó. Nov. 10, 1908.

Irides deep brown; bill dark slate-coloured, cere and lores deep red; legs and toes livid flesh-coloured.

This Swan is common in the Ajó district, and is found in small parties throughout the winter months. Owing to the dry seasons experienced, I did not find any nests, and although I examined every lagoon for them no young birds were observed.

213. Coscoroba candida.

Coscoroba candida Arg. Orn. ii. p. 126.

Coscoroba coscoroba Salvad. Cat. B. xxvii. p. 42.

a, b. ♀ ad. Laguna de Milan, Ajó. Nov. 15, 1908.

c. ♀ ad. Los Ynglases, Ajó. April 13, 1909.

Irides white; bill, legs and toes pink-flesh-coloured.

Both the November birds have dropped all the primaries and new ones are developing. The April bird has almost completed the moult.

This is a very common species in the Ajó district and frequents all the open waters and the sea-coast.

In November 1908, on the Laguna de Milan, many of these birds were seen unable to fly, and on being chased half swam and half flopped over the surface of the water to take refuge in the dense reed-beds.

214. DENDROCYGNA FULVA.

Dendrocygna fulva Arg. Orn. ii. p. 126; Salvad. Cat. B. xxvii. p. 149.

a. ♂ ad. Villa Pilar, Paraguay.

Irides brown; bill slate-coloured, darker at tip; legs and toes slate-coloured.

215. CAIRINA MOSCHATA.

Cairina moschata Arg. Orn. ii. p. 129; Salvad. Cat. B. xxvii. p. 51.

a, b. ♀ imm. & ad. Pan de Azucar, Brazil. Sept. 18–19, 1909.

Commonly observed in Northern Paraguay and Brazil, especially near Puerto Maria, in flocks of upwards of forty individuals.

216. HETERONETTA ATRICAPILLA.

Heteronetta melanocephala Arg. Orn. ii. p. 130.

Heteronetta atricapilla Salvad. Cat. B. xxvii. p. 325.

a, b. ♂ ♀ ad. Los Ynglases, Ajó. Oct. 3, 1908.

c. ♀ ad. ,, ,, Oct. 27, 1908.

This is by no means a common Duck in the Ajó district: it frequents singly or in pairs open sheets of water in the larger reed-beds; it swims rather low in the water and reluctantly takes to flight.

217. QUERQUEDULA CYANOPTERA.

Querquedula cyanoptera Arg. Orn. ii. p. 130; Salvad. Cat. B. xxvii. p. 303.

a, b. ♂ ♀. Los Ynglases, Ajó. May 9, 1909.

♂. Irides pale yellow; bill black; legs and toes pale yellow.

♀. Irides brown; bill black faintly mottled with grey, lower mandible mottled with pale flesh-colour; legs and toes pale brown.

218. QUERQUEDULA FLAVIROSTRIS.

Querquedula flavirostris Arg. Orn. ii. p. 131.

Nettion flavirostre Salvad. Cat. B. xxvii. p. 261.

a, b. ♂ ad. Los Ynglases, Ajó. Sept. 18–22, 1908.
c. ♂ nestling. ,, ,, Oct. 7, 1908.
d. ♂ ad. ,, ,, Mar. 8, 1908.

Irides dark brown; bill clear yellow, culmen and tip black; legs and toes brownish white.

One of the September birds and the March one are moulting slightly on the body: the latter shews signs of wear, and many of the belly-feathers have faded to brown at the tips.

This is the Tree-Teal of the Ajó district, where it is quite plentiful and very tame and confiding, many being seen perched on the eucalyptus trees close to the buildings. There also it breeds, placing the nest on the top of those of *Bolborhynchus monachus*, and laying five or six eggs. It probably carries the young down after hatching, although I have been unable to detect it in the act, but I have more than once seen the whole brood following the parent, who will often affect lameness or other injury to entice the intruder away. Its habit here of breeding in trees does not appear to have been recorded in other localities, and Hudson, in 'Argentine Ornithology,' mentions it as breeding on the ground. The call is a harsh scraping quack, continually repeated when on the wing: the flight being very swift and twisting when threading its way through trees. The bird seems perfectly at home on the branches of the trees, where, when not on the water, I have always seen it resting.

I did not obtain the eggs, owing to the inaccessible positions of most of the Parrots' nests, but there is a clutch of six in the collection of Miss Runnacles; these are of a pale cream-colour and slightly glossed, and measure:—axis 1·88 to 2·11 in., diam. 1·4 to 1·5. The nest was lined with down, and this one was placed on a Parrot's nest in a small tala tree.

219. Querquedula versicolor.

Querquedula versicolor Arg. Orn. ii. p. 131; Salvad. Cat. B. xxvii. p. 291.

a. ♂ ad.	Los Ynglases, Ajó.	Sept. 20, 1908.
b. ♂ ad.	,, ,,	Jan. 27, 1909.
c, d. ♂ & ♀ ad.	,, ,,	Mar. 8–30, 1909.

Irides dark brown; bill, upper mandible yellow at base, apical half and cutting-edge electric blue, culmen and tip black; lower mandible electric blue, nail black, soft skin blackish; legs and toes ashy.

The March female is much worn and starting to moult; the male, on the other hand, is in perfect plumage.

220. Querquedula brasiliensis.

Querquedula brasiliensis Arg. Orn. ii. p. 133.

Nettion brasiliense Salvad. Cat. B. xxvii. p. 266.

a, b. ♂ ♀ ad. Medano, Paraguay. Sept. 17, 1909.

♂. Irides brown; bill dull dark crimson-red; legs and toes rich tomato-red.

♀. Irides brown; bill dark olive-brown; legs and toes not nearly so bright as in male.

This Duck was commonly observed throughout Paraguay and Brazil, usually in pairs; it has a low swift flight with the wings depressed, and looks exceedingly pretty as the sunlight catches the glossy wings.

221. Dafila spinicauda.

Dafila spinicauda Arg. Orn. ii. p. 134; Salvad. Cat. B. xxvii. p. 279.

a, b. ♂ & ♀ yg. Cape San Antonio. Dec. 21, 1908.

c, d. ♂ ♀ ad. & yg. Los Ynglases, Ajó. April 6, 1909.

e. ♀ ad. Los Ynglases, Ajó. April 13, 1909.

In the pair of adults before me I can see no difference in general, including the top of the head, except that the female has the wing-speculum dull bronzy brown mottled with brown.

Irides dark brown; bill black and greenish yellow, brightest near gape; legs and toes olive-grey.

The only difference between the pair of young shot in December lies in the male having a considerably darker speculum: both are moulting on the back. The young female taken in April is moulting all over, except for the wings, and has already assumed the rufescent head, breast, and back feathers of the adult; the speculum is pale brown, blackish where it adjoins the light tips and on the inner webs.

This is perhaps the commonest Duck on the pampas of the Ajó district; at the time that the thistle-seed is ripe (January to April) enormous flocks visit the open camps, resting by day on the lagunas, where excellent shooting can be obtained at the regular morning and evening flights.

It breeds in the district, placing the nest under any convenient tuft of grass, thistle, &c., in the open camp; the structure is lined with down and six to nine eggs are laid. The bird sits closely, and usually only rises when one's horse almost steps on the nest.

Thirteen eggs were brought home, collected on Oct. 22nd, 1909, at Ajó. They measure: axis 2·0 to 3·3 in., diam. 1·41 to 1·55.

222. Dafila bahamensis.

Dafila bahamensis Arg. Orn. ii. p. 135.

Pœcilonetta bahamensis Salvad. Cat. B. xxvii. p. 282.

a. ♂ ad. Luiconia, Ajó. Feb. 23, 1909.

Irides crimson; bill black, slaty at tip, basal patch red; legs and toes ash-coloured.

223. Mareca sibilatrix.

Mareca sibilatrix Arg. Orn. ii. p. 135; Salvad. Cat. B. xxvii. p. 236.

a, b. ♂ ♀ ad. Los Ynglases, Ajó. Sept. 15–23, 1908.
c. ♂ ad. „ „ Jan. 19, 1910.

Irides dark brown; bill, upper mandible blue slate-coloured, tip next to feathers and lower mandible black; legs and toes blue-grey.

The January bird is shewing considerable signs of wear and is beginning to moult.

224. SPATULA PLATALEA.

Spatula platalea Arg. Orn. ii. p. 136; Salvad. Cat. B. xxvii. p. 316.

a. ♂ ad. Laguna de Milan, Ajó. Nov. 15, 1908.

b. ♂ ad. Los Ynglases, Ajó. Apr. 6, 1908.

c. ♂ ad. Colonia Mihanovitch, N. Argentine. Aug. 13, 1909.

Irides white; bill black; legs and toes ochre-yellow, with black spots on some of the joints.

The November bird is in perfect plumage and the August example is shewing signs of considerable wear. The April bird is in almost full plumage, still moulting on the body; the old feathers shewing no signs of eclipse plumage.

225. METOPIANA PEPOSACA.

Metopiana peposaca Arg. Orn. ii. p. 137; Salvad. Cat. B. xxvii. p. 332.

a, b. ♂ ♀ ad. Los Ynglases, Ajó. Sept. 22, 1908.

c, d. ♂ ♀ ad. „ „ Dec. 20, 1908.

♂. Irides rich orange; bill lilac, tip black, knob pale tomato-red shading into the lilac, point of gape black; legs and toes palish yellow-ochre.

♀. Irides dark brown; bill blue-slate-coloured, tip black; legs and toes pale clear brown.

This is the most uncertain of all Ducks in the Ajó district, considerable numbers being often seen where for weeks hardly one can be flushed. It has a strong flight and is always rather wary, and has a loud hoarse "quack." It breeds here, but I have only taken two sets of eggs, and both of these were in the nests of *Fulica* and contained the eggs of that bird also; the natives say this is the usual custom of the bird, and assert that the Coot brings off the young.

Sixteen eggs were brought home, and these measure: axis 2·29 to 2·5 mm., diam. 1·72 to 1·75.

226. ERISMATURA VITTATA.

Erismatura ferruginea Arg. Orn. ii. p. 138.

Erismatura vittata Salvad. Cat. B. xxvii. p. 450.

a, *b*. ♀ ad. Los Ynglases, Ajó. Oct. 3, 1908.

Irides dark brown; bill dark olive-brown, lower mandible marked with yellow; legs and toes dark ash-coloured.

Both specimens are moulting on the body and tail.

This Duck is not commonly observed in the Ajó district, where it frequents the open water surrounded by reeds. On being alarmed it dives after the manner of a Grebe, and I have never seen it take to the wing.

When swimming, the tail is held upright and the body lies very low in the water, which almost closes over the shoulders.

[To be continued.]

X.—*On recently described* Paradiseidæ, *with Notes on some other new Species.* By Walter Rothschild, Ph.D., M.B.O.U.

(Plates V. & VI.)

Since the appearance in 1898 of my "*Paradiseidæ*" in 'Das Tierreich,' there have been described sixteen new species and subspecies of Birds of Paradise; of these one, in my opinion, is a hybrid, which would thus leave fifteen new species and subspecies.

This continual stream of new forms of *Paradiseidæ* shews that we have very little final knowledge of the avifauna of huge tracts of that wonderful island New Guinea.

Before the publication of my "*Paradiseidæ*" we knew the eggs of only sixteen Birds of Paradise, viz., *Ptilonorhynchus violaceus* (1889), *Ælurœdus melanotis maculosus* (1895), *Æ. viridis* (1889), *Chlamydera maculata* (1889), *C. nuchalis orientalis* (1897), *C. cerviniventris* (1895), *Sericulus chrysocephalus* (1889), *Ptilorhis paradisea paradisea* (1897), *P. p. victoriæ* (1896), *P. magnifica alberti* (1897), *Paradisea apoda apoda* (1884), *P. a. augustæ-victoriæ* (1897), *P. a. raggiana* (1883), *Manucodia atra atra* (1897), *M. a. altera* (1897), and *M. comrii* (1893).

The following is a list of species and subspecies of which we now know the eggs; those marked with an * are in the

Tring Museum and, with the exception of the first, have been figured in 'Novitates Zoologicæ,' vol. xvii. pl. x. (1910)*:—

*Ptilonorhynchus violaceus (*Vieill.*).
Æluroedus viridis (*Lath.*).
* „ melanotis maculosus *Rams.*
* „ buccoides geislerorum *Meyer.*
*Scenopœetes dentirostris (*Rams.*).
*Chlamydera cerviniventris *Gould.*
* „ maculata maculata (*Gould*).
„ „ guttata *Gould.*
* „ nuchalis nuchalis (*Jard. & Selby*).
„ „ orientalis *Gould.*
Sericulus chrysocephalus (*Lewin*).
*Prionodura newtoniana *de Vis.*
*Parotia sefilata lawesi *Rams.*
*Lophorina superba minor *Rams.*
*Ptilorhis magnifica intercedens *Sharpe.*
„ „ alberti *Elliot.*
„ magnifica (*Vieill.*).
* „ paradisea victoriæ *Gould.*
*Seleucides ignotus (*Forst.*).
*Astrapia stephaniæ (*Finsch & Meyer*).
Paradisea apoda apoda *Linn.*
* „ „ raggiana *Scl.*
* „ „ augustæ-victoriæ *Cab.*
* „ rudolphi (*Finsch*).
* „ minor minor *Shaw.*
* „ „ finschi *A. B. Meyer.*
Manucodia atra atra (*Less.*).
* „ „ altera *Rothsch. & Hart.*
* „ chalybata orientalis *Salvad.*
* „ comrii *Scl.*
*Phonygammus keraudreni jamesi *Sharpe.*
„ „ gouldi (*Gray*).
Lycocorax pyrrhopterus obiensis *Bernst.*

In this article, as the result of closer examination of the various *Paradiseidæ*, I have united a number of forms in the various genera as SUBSPECIES. I repeat here my reason for doing this in many families of birds. If a form replaces another geographically, but structurally and otherwise shews no important differences, I regard it as only subspecifically distinct. If, on the other hand, a form, however closely allied to another, occurs in the same geographical area with it, I consider it a distinct species. In the case of *Paradisea apoda* and its allies I may be accused of inconsistency in not also treating *P. minor* and *P. decora* as subspecies, but I consider that I am right for the following reasons: while *P. apoda, P. novæ guineæ, P. raggiana, P. intermedia, P. granti,* and *P. augustæ-victoriæ* replace one another absolutely geographically, have the same structure, and intergradate completely in colour, *P. minor* occurs in the same geographical area as *P. augustæ-victoriæ*, and the ornamental flank-plumes have a different structure, the barbules being wider and closer together, so that the feathers are less disintegrated and silkier in appearance. As regards *P. decora,* it is true that it has a separate geographical area, but the ornamental flank-plumes are totally different in structure and the female is so different that its specific distinctness is incontestable. All the other forms in various genera which I have placed as subspecies replace one another geographically and do not present structural differences.

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* Since this was written nests and eggs of *Astrapia rothschildi* Foerst. and *Paradisea gulielmi* Cab. have been received at Tring.

In my "*Paradiseidæ*" in the 'Tierreich' I united all the forms of *Diphyllodes*, with the exception of *D. gulielmi-tertii*, as one very variable species. I have since got more material and, after a careful examination, have come to the conclusion that *Diphyllodes magnificus* should be separated into three subspecies as follows:—

Diphyllodes magnificus magnificus (Penn.).
Inner secondaries clay-colour.—ARFAK PENINSULA.

Diphyllodes magnificus chrysopterus Gould.
Inner secondaries orange, head greyish brown.—JOBI ISLAND AND THE OPPOSITE COAST, EAST OF GEELVINK BAY.

Diphyllodes magnificus hunsteini Finsch & Meyer.
Inner secondaries orange, head rufous.—GERMAN AND BRITISH NEW GUINEA.

In the 'Tierreich' I also united *Chlamydera nuchalis* and *C. orientalis* as identical, being misled by some wrongly labelled specimens; they are, however, confined to different areas of the Australian continent and should stand as subspecies thus:—

Chlamydera nuchalis nuchalis (Jard. & Selby).—Northern and North-west Australia.

Chlamydera nuchalis orientalis Gould.—Queensland.

Since 1898 I have received specimens of *Diphyllodes gulielmi-tertii* from German New Guinea and British New Guinea. They were shot respectively between Bongu and Stephansort, and in the Owen Stanley Mountains.

These are the first properly localised specimens known, as all the others were skins traded out of Dutch New Guinea. The British New Guinea bird has the belly whiter than any others that I have yet seen, but, as the specimens all vary *inter se*, I do not venture to separate it until more examples come from there.

I also have received the second known specimen of *Paryphephorus duivenbodei* from British New Guinea. This was brought home by Mr. A. E. Pratt, who stated that it was killed at Foula, 4000 ft. in the mountains between the Aroa and St. Joseph's Rivers in British New Guinea.

Dr. Sharpe, in the 'History of the Collections in the Natural History Museum' (vol. ii. p. 131), has proved that Latham's *Turdus melinus* was not *Sericulus melinus* auct., but a *Sphecotheres*; therefore the correct name for the Regent Bird is *Sericulus chrysocephalus* (Lewin).

Dr. Lorenz has at last obtained perfect skins of *Xanthomelus aureus ardens* Alb. & Salvad., and it proves more different from *X. aureus aureus* than I thought, owing to the want of the black throat. I still, however, consider it to be only the geographical representative of *X. a. aureus*, as it does not differ structurally.

Paradisea rudolphi hunti (Le Souëf) is merely a synonym of *P. rudolphi*, as I have specimens from the typical locality which have even more extended blue apices to the central rectrices, and the shorter flank-plumes are a sign of youth.

The adult and young males of *Drepanornis albertisi geisleri* Meyer have now been procured. The female alone was known up to 1909.

The young male differs from the female in having fainter bars on the flanks and abdomen, while the adult male differs from *D. albertisi albertisi* in being darker above and below, and in being more olive and less rufous on the wings.

Herr Nehrkorn has described an egg as being that of *Amblyornis inornatus*, and I have described one as that of *Cnemophilus macgregori*, but both are more than doubtful.

I now give descriptions of the new species and subspecies published since 1898, and a complete revised list of all the known Birds of Paradise.

AMBLYORNIS SUBALARIS GERMANUS.

Amblyornis subalaris germanus Rothsch. Bull. B. O. C. xxvii. p. 13 (1910).

♀ *ad.* Slightly darker and more rufescent than the female of *A. subalaris subalaris*, the feathers of the throat being uniform, while in the latter they have a paler median line and dark brown edges.

Wing 128 mm.; tail circa 90 mm.; culmen 28 mm.; metatarsus 38 mm.

Crest of male similar to that of *A. s. subalaris*.

Habitat. Rawlinson Mts., German New Guinea.

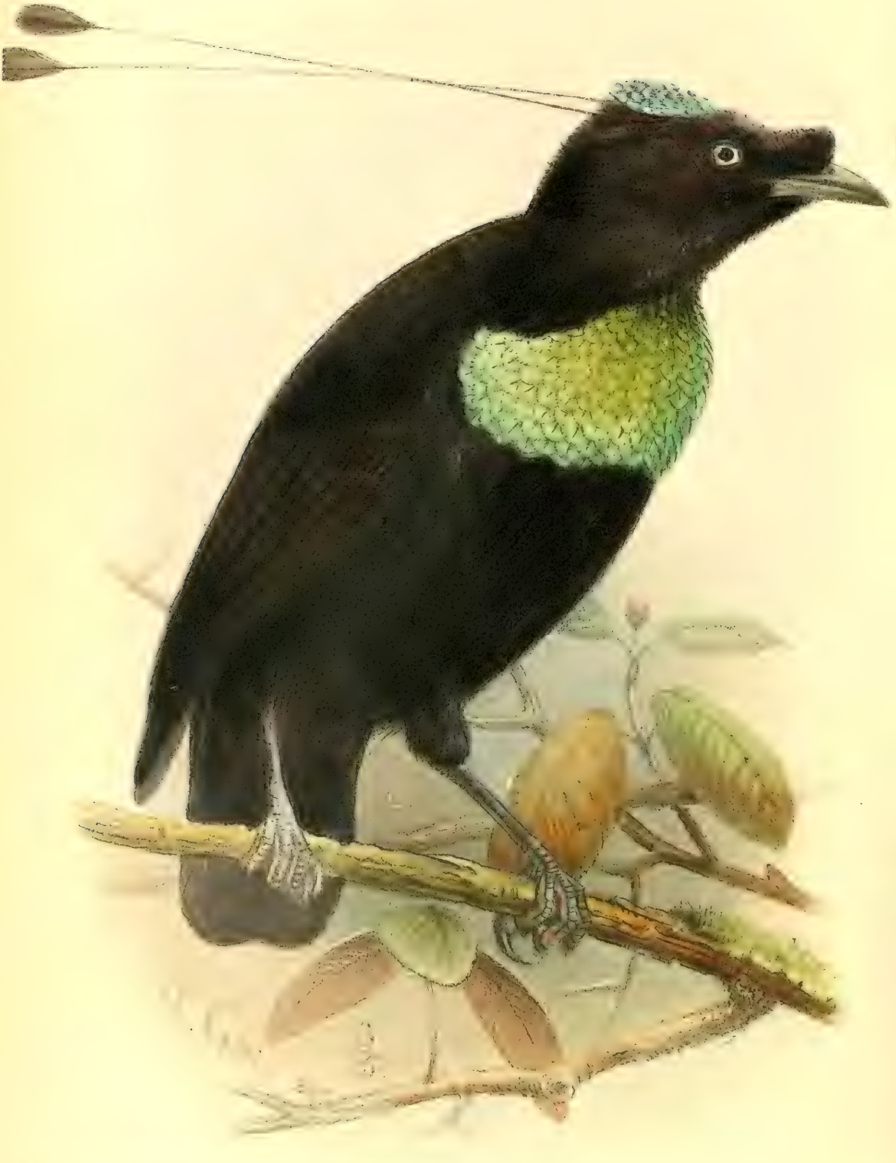
PAROTIA CAROLÆ MEEKI.

Parotia carolæ meeki Rothschild, Bull. B. O. C. xxvii. p. 35 (1910).

♂ *immat.* An immature male with fully developed head-plumage differs from *P. c. berlepschi* in having the sides of the crest broadly edged with white from the base of the bill to above the eye, and from *P. c. carolæ* in having the chin as well as the upper half and sides of the throat black instead of buff, while in *P. c. berlepschi* the whole throat is black.

♀ *ad.* Similar to that of *P. c. carolæ,* but the crown and

Ibis.1911.Pl.



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West Newman imp.

PAROTIA DUIVENBODEI ♂.

the middle of the forehead of a different shade of grey and more uniform.

Habitat. 'Letakwa' River, Dutch New Guinea, 2000–2500 feet. Collected by A. S. Meek.

PAROTIA DUIVENBODEI. (Plate V.)

Parotia duivenbodei Rothsch. Bull. B. O. C. x. p. 100 (1900).

♂ *ad.* Pectoral shield of a different shape, structure, and colour and more extended than in *P. helenæ*, *P. sefilata*, or *P. lawesi*. The shield, in fact, consists of a much larger number of rows of smaller, narrower, and more scutellate feathers, which give it a rougher appearance. The ruff-like development on the sides of the neck does not extend so far across the throat, in consequence of which the metallic feathers of the pectoral shield reach further upon the throat, gradually diminishing in size and number. The black central shaft-patches on the lower laterals of the shield are considerably narrower and much less numerous. The colour of the pectoral shield is a glittering metallic grass-green, with some of the feathers on the edges of the shield washed and edged with blue, whereas in the three allied species the shield is of a brilliant coppery greenish-golden colour. There is no long erect tuft on the forehead, and the crest on the front part of the head is in the form of a low cushion. The glittering occipital band of the several allied species is replaced by a large, triangular, rather wedge-shaped, shield of glittering metallic steel-green feathers, the shield being edged with steel-blue and extending from between the eyes to the occiput. There is one long head-plume on each side, and the dark feathers on each side of the head-shield from behind the eyes are lengthened so as to form horns somewhat like those in the genus *Phonygammus*. There is no white anywhere on the head, and the colour of this part and the whole of the rest of the upper surface is of a rich deep bronzy purple, NOT glossed with oily brown as in the allied forms. The first and second primaries are less abruptly emarginate than in the nearly related species.

Wing 150 mm.; tail 115 mm.; metatarsus 38 mm.; culmen 34 mm.

Habitat. Dutch New Guinea (*Van Renesse van Duivenbode*).

Note.—In all the other six forms of Parotia there are six elongated head-plumes, but there is no sign of any having been pulled or shot out in the type of this species. A second specimen was received by the Paris Museum in 1910, but that has all the head-plumes wanting, so that there is still no certain evidence of the real number of head-plumes in *P. duivenbodei.*

Parotia wahnesi. (Plate VI.)

Parotia wahnesi Rothsch., Foerster & Rothschild, Two new Birds of Paradise, p. 2 (1906).

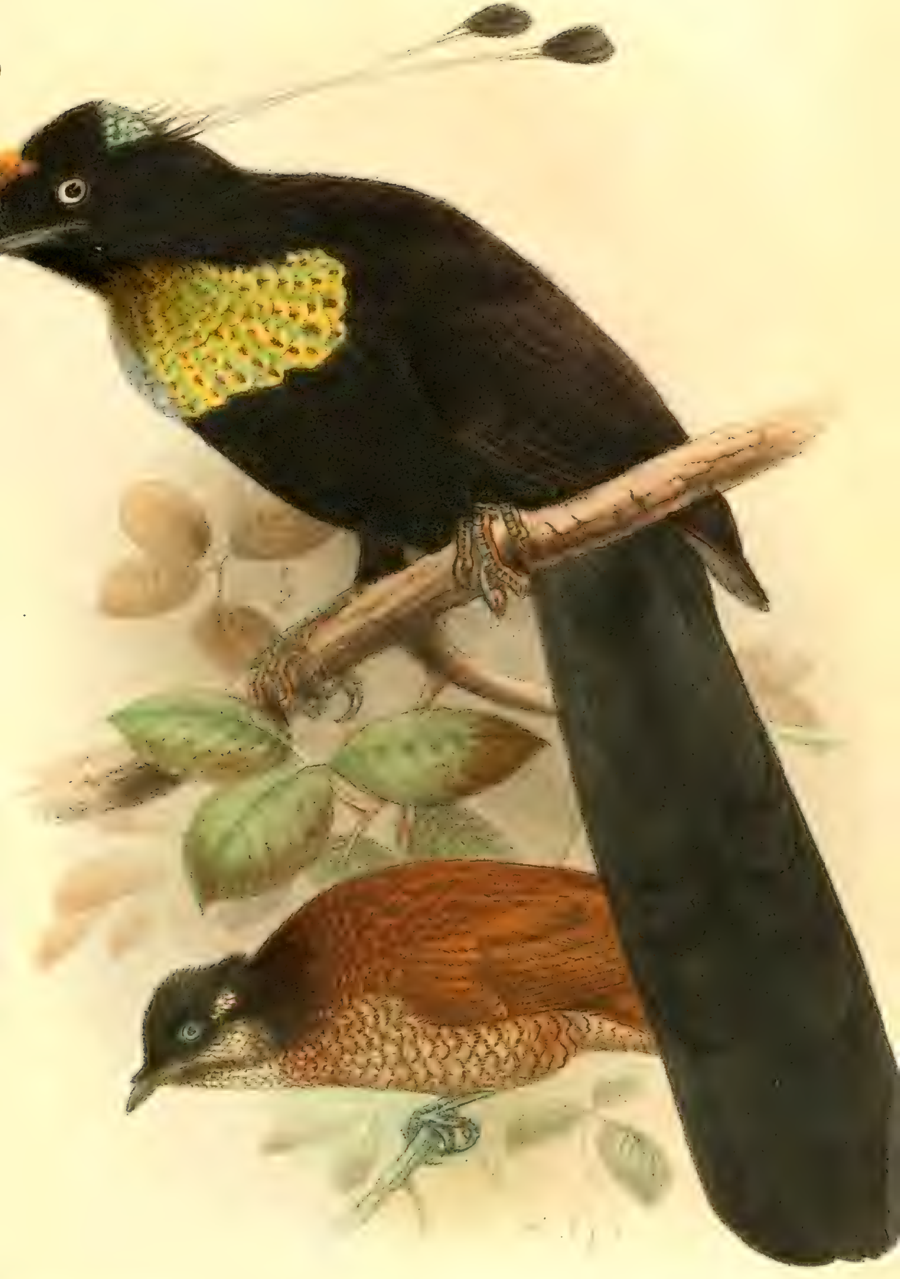
♂ *ad.* Differs from *P. helenæ* at first sight by having the whole of the frontal crest composed of curled feathers broadly tipped with bronzy gold, not straight and entirely bronze-black as in *P. helenæ.* In the latter species only the short feathers at the base of the culmen are tipped with golden bronze. The most striking difference, however, lies in the tails of the two species: in *P. wahnesi* the tail is more than double the length of the tail in *P. helenæ*, and is graduated and wedge-shaped, as opposed to the square even tail of the latter.

Wing 156–165 mm.; tail 212–217 mm.; culmen 28–30 mm.; metatarsus 51–54 mm.

♀ *ad.* Differs from the female of *P. helenæ* in the much brighter reddish-chestnut colour of the upper surface, and the more rufous tone of the under parts. Feathers of the hind-neck heavily barred with black. Interscapulium, back, and rump more faintly vermiculated with black, while the whole upper parts in *P. helenæ* are uniform umber-brown. Wings and tail rufous chestnut instead of umber-brown.

Wing circa 156 mm.; tail 178 mm.; culmen 25 mm.; metatarsus 52 mm.

Habitat. Rawlinson Mts., German New Guinea (*Wahnes coll.*).



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Mint. Newman

PAROTIA WAHNESI ♂ & ♀

LOPHORINA SUPERBA LATIPENNIS.

Lophorina minor latipennis Rothsch. Bull. B. O. C. xix. p. 92 (1907).

♂ *ad.* Differs from the male of *L. minor minor* from British New Guinea in having the long lateral plumes of the pectoral shield slightly longer and distinctly wider.

Habitat. Rawlinson Mountains, German New Guinea.

Genus LOBORHAMPHUS.

Allied to *Lamprothorax*. Differs from that genus in having longer pectoral tufts which are more curved, in having a much less developed nuchal frill, and in having two yellow fleshy lobes or folds on the basal third of the bill, forming two wattles on each side. The tail is graduated and like that of an *Astrapia*, NOT short and square with the two central feathers elongated and narrow.

Two species: *L. nobilis* Rothsch. and *L. ptilorhis* Sharpe.

LOBORHAMPHUS NOBILIS.

Loborhamphus nobilis Rothsch. Bull. B. O. C. xii. p. 34 (1901); Rothsch. & Hartert, Notes on Papuan Birds, Novit. Zool. x. pp. 65, 72, 89, pl. i.

♂ *ad.* Crown metallic purple; neck, back, and rump velvety black with a strong bronze gloss. Wings and tail black with a purple sheen on the exposed webs. Sides of the neck and head coppery bronze. Chin and throat dark bronzy green. Pectoral shield glittering purple with metallic-blue reflexion. Some of the feathers of the lateral tufts have a metallic-blue border. Below the pectoral shield is an ill-defined wide bronze-green band. Rest of under surface black with a strong wash of purple.

Wing 165 mm.; tail 154 mm., lateral pair of tail-feathers 105 mm.; bill from gape 37 mm.; culmen 32 mm.; metatarsus 44 mm.

Habitat. Dutch New Guinea (*Van Renesse van Duivenbode*).

LOBORHAMPHUS PTILORHIS.

Laborhamphus ptilorhis Sharpe, Bull. B. O. C. xxi. p. 67; id. Hand-l. B. v. p. 575.

♂ *ad.* Velvety black, strongly washed with coppery purple. The crown metallic, slightly paler, but otherwise uniform with the back. Nasal plumes thick and velvety; sides of the head of the same colour as crown. Chin oily green. Pectoral shield mostly reddish purple, but with some of the feathers bordered with steel-green. Rest of under side velvety black. Base of bill with yellow wattles.

Wing 178·5 mm.; tail 155 mm.; culmen 37·5 mm.; metatarsus 42·5 mm.

Habitat. Dutch New Guinea.

IANTHOTHORAX MIRABILIS (Reichen.).

Paradisea mirabilis Reichenow, Orn. Monatsb. ix. p. 186 (1901); Journ. f. Orn. 1902, pl. i.

Ianthothorax mirabilis Rothsch. Bull. B. O. C. xiii. p. 31 (1903).

♂ *ad.* Head, occiput, chin, throat, and sides of head and throat covered with a thick mass of close, small, velvety, scale-like feathers, glittering steel-blue; hind-neck, interscapulium, and upper back blackish steel-blue. Lower two-thirds of back and upper tail-coverts liver-brown intermixed with blackish; tail sooty black-brown, outer webs saturated and washed with steel-blue, central rectrices narrow and pointed, about one inch longer than the rest, bright steel-blue. Quills deep brown, rest of wings and upper wing-coverts liver-brown intermixed with brownish black. Breast and upper abdomen deep velvety purplish brown, flanks paler; lower abdomen yellowish grey, streaked with purple-brown. Elongated flank-plumes yellowish grey, washed with pale clay-brown.

Wing 185–195 mm.; tail without central rectrices 130 mm., central rectrices 155 mm.; elongated flank-plumes exceed central rectrices by 211 mm.; culmen 46 mm.; metatarsus 50 mm.

Habitat. German and Dutch New Guinea.

The description is taken from the type, which, together with the only other known skin, is in the Tring Museum. The type has the two central rectrices missing, but these are present in the second example—a legless, flat, Arfak skin. The latter only differs from the type in having the five pairs of outer rectrices much paler brown, only glossed with steel-blue. As, however, this gloss is confined to one side of the tail, it shews the bird to be less adult than the type, and so I cannot attribute the paler tail to anything but youth. Prof. Reichenow has described this bird under the generic appellation of *Paradisea*, and has stated that it is probably a hybrid between *Paradisea minor* and *Seleucides ignotus*!

Genus NEOPARADISEA.

Central tail-feathers intermediate between those of *Paradisea* and *Diphyllodes*; outer webs longest and green, curved downwards as in *Paradisea*, not inwards and crossed as in *Diphyllodes*. Bill as in *Diphyllodes*, but nostrils larger and covered by nasal plumes, though less so than in *Diphyllodes*. First primary short and pointed, second twice as long as the first, fourth primary longest, not fifth as in most other *Paradiseidæ*. Feathers on head and neck as in *Paradisea*. Flank-plumes short, not reaching to the end of primaries, but of the same structure as in *Paradisea*.

One species: *N. ruysi* Van Oort.

Note.—The short flank-plumes denote a certain relationship to *Ianthothorax*.

Mr. Van Oort considers the type of *N. ruysi* immature, but in view of the singularly immature appearance of perfectly adult specimens of *Lamprothorax* and *Ianthothorax*, it is quite clear to my mind that the bird is fully adult.

NEOPARADISEA RUYSI Van Oort.

Neoparadisea ruysi Van Oort, Notes Leyd. Mus. xxviii. p. 129 (1906–07).

♂ *ad.* Chin and throat black with purplish-green gloss; fore-neck and breast blackish brown with a purplish-blue gloss, each feather of the breast fan-shaped at its apex, brownish with metallic purplish-blue margin; belly and under tail-coverts blackish brown, the feathers of the latter with pale centres. On the flanks are tufts of loose ornamental plumes, sooty brown with the barbs of the anterior portions whitish brown; these ornamental flank-plumes do not reach end of wing. Forehead greenish black; head and neck covered with short, dense, pile-like feathers, brownish yellow margined with greenish black. Hind-neck and back bright orange-brown; rump and upper tail-coverts olive-brown; tail fuscous brown with a purple gloss. Wings dusky brown glossed with purple; outer web of quills with broad orange-brown margins, inner webs with sandy-yellow edges.

Wing 150 mm.; tail without central feathers 90 mm., central tail-feathers 360 mm.; metatarsus 42 mm.

Habitat. Warsembo, west coast of Geelvink Bay, Dutch New Guinea.

SELEUCIDES IGNOTUS AURIPENNIS.

Seleucides ignotus auripennis Schlüter, Falco, 1911, p. 2.

♂ ad. Differs from that of *S. ignotus ignotus* in having a shorter wing and slenderer shorter bill; the lateral plumes are deeper and more golden yellow, and the green edges to the lateral feathers of the breast-shield are wider.

♀ ad. and *♂ juv.* Differ from those of *S. ignotus ignotus* in having the under side darker brown, the blackish-brown bars blacker and closer together, wing and bill shorter.

Habitat. German New Guinea and North coast of Dutch New Guinea east of the Ambernok River.

Genus PSEUDASTRAPIA.

Tail as in *Falcinellus*, but shorter, stiffer, and straighter: bill almost straight as in *Astrapia*, not long and sickle-shaped; feathering of forehead continued along the bill and concealing the nostrils; a light-coloured (yellow) fleshy lobe or wattle above and below the angle of the gape.

Two species: *P. lobata* Rothsch. and *P. ellioti* (Ward).

Note.—On re-examining the type of *P. ellioti* I found that it had the short, almost straight bill and the wattled gape of *Pseudastrapia* as well as the shorter and stiffer tail, and so it must be taken out of the genus *Falcinellus* and placed in the above-mentioned genus.

1. PSEUDASTRAPIA LOBATA.

Pseudastrapia lobata Rothschild, Bull. B. O. C. xxi. p. 25 (1907).

♂ *immat.* General colour dull black; forehead with bottle-green gloss; the elongated middle rectrices with a metallic steel-blue gloss as in *Falcinellus meyeri*, and drawn out into long, narrow points, not abruptly cuneate as in *Pseudastrapia ellioti*. Bill and feet black. The wattles at the gape appear to have been pale yellow, not orange as in *P. ellioti*.

Wing 187 mm.; middle rectrices 395, lateral rectrices 122 mm.; culmen 42 mm.; metatarsus 46 mm.

Habitat. Dutch New Guinea.

2. PSEUDASTRAPIA ELLIOTI (Ward).

Epimachus ellioti Ward, P. Z. S. 1873, p. 742; Elliot, Monogr. Parad. pl. xx. (1873); Sharpe, Cat. B. Brit. Mus. iii. p. 163 (1877); Gould, B. New Guinea, i. pl. viii. (1880); Sharpe, Monogr. Parad. pl. xvi. (1896); Meyer, Ibis, ii. (6) p. 418 (1890).

Falcinellus ellioti Rothsch. Das Tierreich, Aves, Lief. ii. p. 29 (1898).

ASTRAPIA ROTHSCHILDI.

Astrapia rothschildi Foerster & Rothschild, Two new Birds of Paradise, p. 2 (1906).

♂ *ad.* Similar to *A. nigra*, but the metallic border to the breast-shield is more fiery red and only reaches to the upper edge of the shield, NOT, as in *A. nigra*, to below the eye. The postocular black fan-shaped tufts of *A. nigra* are absent in the present species. The lunated flank-feathers have a narrow subterminal metallic-coppery band, followed by a terminal green one, NOT a broader entirely green terminal band as in *A. nigra*. The feathers on the hind-neck and lower nape appear duller in colour, each feather having a subterminal glittering green band followed by a terminal band of purplish bronze, while in *A. nigra* these feathers have a broad terminal band of glittering green. Breast-shield, head, and throat glossed with bright greenish steel-blue instead of purple.

Wing 182–191 mm.; tail 430–485 mm.; culmen 38–39 mm.; metatarsus 44–46 mm.

♀ *ad.* Similar to *A. nigra*, but more black in colour, and the breast more extensively barred with vermiculate pale bars.

Wing 166 mm.; tail 250–290 mm.; culmen 38–39 mm.; metatarsus 43–45 mm.

Habitat. Rawlinson Mts., German New Guinea (*Wahnes coll.*).

Note.—It will strike many that I am inconsistent in not treating *Astrapia rothschildi* and *A. stephaniæ* as subspecies of *A. nigra*, but the structure of the plumage of the males is different, and though they undoubtedly represent one another geographically, I do not feel justified in uniting them as three subspecies.

CICINNURUS LYOGYRUS Currie.

Cicinnurus lyogyrus Currie, Proc. U.S. Nat. Mus. xxii. p. 497 (1900), Patria ignota.

Differs from *C. regius* (Linn.) in having the pectoral shield nearly four times as long as in the latter, it being almost as long as broad; frontal plumes shorter, not projecting forward beyond middle of bill and not obscuring the the contour of the skull; tail emarginate instead of rounded; outer web at end of central tail-shafts only two-thirds as wide near base, the width uniform for the greater part of its length, instead of narrowing rapidly to the tip, much more loosely coiled; the apical portion of the naked crossed tail-shafts divergent instead of convergent. The crimson of the back is darker; crown and forehead orange-vermilion, not orange-chrome; pectoral tufts smaller, darker, and subterminal buff line on each plume much narrower, darker, and less conspicuous; pectoral shield, except a narrow edging on lower border, and tips of central tail-feathers grass-green, not emerald-green, and the tips of the pectoral plumes are narrowly tipped with yellowish emerald-green, not broadly tipped with golden green. Primaries of a duller orange-rufous.

Measurements given by the author:—

Wing 200 mm. (evident misprint for 100 mm.); tail without central tail-feathers 48 mm., tail with central feathers unrolled 330 mm.; culmen 42 mm.; metatarsus 50 mm.; middle toe 37 mm.

Through the kindness of the authorities of the U.S. National Museum, I have been able to examine the type of this species. The width of the green pectoral shield, the shape of the tail and middle rectrices, and the dark colour of the forehead (which is as dark as in *C. regius cocciniformis*), are very striking characters, and it is a great pity that the locality whence this bird came is unknown. By some curious mistake most of the measurements in the description are wrong. The wing measures 102, and not 200, the tail with the central feathers unrolled 167, and not 300, the culmen 22, and the metatarsus 30 mm.

Habitat. Unknown.

CICINNURUS GOODFELLOWI Grant.

Cicinnurus goodfellowi Grant, Bull. B. O. C. xix. p. 39 (1907).

Differs from *C. lyogyrus* in having the upper parts of a bright orange-crimson, paler than in *C. regius*; chin and upper parts of the throat orange-red, shading into dull crimson with purple reflexions on the lower throat and fore-neck; in lacking all trace of the buff tips to the feathers of the fore-neck, which in *C. lyogyrus* and *C. regius* form a marked convex line dividing the dull crimson of the fore-neck from the green of the upper breast; and in having the flank-feathers dark sooty brown glossed with coppery purple. Iris dark brown; bill yellow; feet dark cobalt-blue.

Culmen 27·5 mm.; wing 102·5; central tail-feathers 190 mm.; metatarsus 32·5 mm.

Habitat. Cyclops Mts., 3000 ft., Humboldt Bay, Dutch New Guinea.

Note.—In my opinion this bird is nothing more than a hybrid between *Cicinnurus regius* and *Diphyllodes gulielmi-tertii*. It is exactly intermediate as regards tail, breast-shield, and flanks.

PARADISEA APODA GRANTI North.

Paradisea granti North, Vict. Nat. xxii. p. 147 (1906).

♂ *ad.* Intermediate between *P. a. intermedia* and *P. a. augustæ-victoriæ*.

Above rich straw-colour; sides of lower back vinous brown; scapulars and lesser wing-coverts vinous brown, with an ashy shade and washed with straw-colour; median coverts rich straw-colour; greater coverts and quills chestnut-brown washed with straw-colour; tail chestnut-brown, the two central feathers elongated, and similar in the terminal portion to *P. intermedia*; crown of head, neck, and a broad collar on lower throat rich straw-yellow; base of forehead, lores, cheeks, and throat metallic green; chin velvety black glossed with dull metallic green; fore-neck and upper breast very dark vinous brown, the plumage like rich velvet pile as in *P. augustæ-victoriæ*; remainder of under surface, thighs, and under tail-coverts vinous brown; elongated flank-plumes reddish orange, gradually becoming paler till the elongated tips are orange-white, the shorter side-plumes being mixed with some feathers tipped with blood-red. Bill bluish horn-coloured; legs and feet (in skin) brown.

Wing 175 mm.; tail without central rectrices 150 mm., central rectrices 500 mm.; flank-plumes 475 mm.; culmen 35 mm.; metatarsus 40 mm.

Habitat. South-East German New Guinea?

MANUCODIA ATRA ALTERA Rothsch. & Hartert.

Manucodia ater altera Rothschild & Hartert, Novit. Zool. x. pp. 84, 85 (1903).

M. atra altera differs from *M. atra atra* in having the head less greenish, the bill much stouter and higher and generally longer, and the wing much longer.

Wing: *M. a. atra*, 168–188 mm.; *M. a. altera*, 193–206 mm. Culmen: *M. a. atra*, 35–40 mm.; *M. a. altera*, 40–44 mm.

Habitat. M. atra atra: Dutch and German New Guinea, Waigiou, Batanta, Salwatty, &c.

M. atra altera: Aru Islands, British New Guinea, and the Eastern Papuan Islands.

MANUCODIA CHALYBATA ORIENTALIS Salvad.

Manucodia orientalis Salvad. Ann. Mus. Civ. Gen. (2) xvi. p. 103 (1896).

Manucodia chalybata orientalis Rothschild & Hartert, Novit. Zool. x. p. 85 (1903).

Differs from *M. chalybata chalybata* in its much smaller size and smaller beak.

Habitat. German and British New Guinea.

Note.—This subspecies was accidentally omitted from my "*Paradiseidæ.*"

Complete List of the Paradiseidæ.

1. Ptilonorhynchus violaceus (*Vieill.*).
2. Ælurœdus viridis (*Lath.*).
3. ,, melanotis melanotis (*G. R. Gray*).
3 *a*. * ,, ,, arfakianus *A. B. Meyer.*
3 *b*. ** ,, ,, melanocephalus *Rams.*
3 *c*. ,, ,, maculosus *Rams.*
4. * ,, buccoides buccoides (*Temm.*).
4 *a*. ***?? ,, ,, geislerorum *A. B. Meyer.*
4 *b*. ** ,, ,, stonei *Sharpe.*
5. Scenopœetes dentirostris *Rams.*
6. ***?? Chlamydera cerviniventris *J. Gould.*
7. ***? ,, lauterbachi *Reichenow.*
8. ,, maculata maculata (*J. Gould*).
8 *a*. ,, ,, guttata *J. Gould.*
9. ,, nuchalis nuchalis (*Jard. & Selby*).
9 *a*. ,, ,, orientalis *J. Gould.*
10. * Xanthomelus aureus aureus (*Linn.*).
10 *a*. **?? ,, ,, ardens *Alb. & Salvad.*
11. **?? Amblyornis inornatus (*Schl.*).
12. ** ,, subalaris subalaris *Sharpe.*
12 *a*. *** ,, ,, germanus *Rothsch.*
13. *? ,, flavifrons *Rothsch.*
14. Sericulus chrysocephalus (*Lewin*).
15. Prionodura newtoniana *de Vis.*
16. *! Loboparadisea sericea *Rothsch.*
17. ** Cnemophilus macgregori *de Vis.*
18. ** Loria loriæ *Salvad.*

19. * Paradigalla carunculata *Less.*
20. ** Macgregoria pulchra *de Vis.*
21. * Parotia sefilata sefilata (*Penn.*).
21 *a.* ** ,, ,, lawesi *Rams.*
21 *b.* ** ,, ,, helenæ *de Vis.*
22. *** ,, wahnesi *Rothsch.*
23. * ,, carolæ carolæ *A. B. Meyer.*
23 *a.* * ,, ,, berlepschi *Kleinschm.*
23 *b.* * ,, ,, meeki *Rothsch.*
24. * ,, duivenbodei *Rothsch.*
25. * Lophorina superba superba (*Penn.*).
25 *a.* ** ,, ,, minor *Rams.*
25 *b.* *** ,, ,, latipennis *Rothsch.*
26. * Pteridophora alberti *A. B. Meyer.*
27. *! Lamprothorax wilhelminæ *A. B. Meyer.*
28. *? Ianthothorax bensbachi *Büttikofer.*
29. ***??o ,, mirabilis (*Reichenow*).
30. *o Loborhamphus nobilis *Rothsch.*
31 *? ,, ptilorhis *Sharpe.*
32. *? Neoparadisea ruysi *Van Oort.*
33 **?o Paryphephorus duivenbodei (*A. B. Meyer*).
34. Ptilorhis paradisea paradisea *Sw.*
34 *a.* ,, ,, victoriæ *J. Gould.*
35. * ,, mantoui (*Oust.*).
36. **?? ,, magnifica magnifica (*Vieill.*).
36 *a.* ** ,, ,, intercedens *Sharpe.*
36 *b.* ,, ,, alberti *Elliot.*
37. * Drepanornis albertisi albertisi (*Scl.*).
37 *a.* ** ,, ,, cervinicauda *Scl.*
37 *b.* *** ,, ,, geisleri *A. B. Meyer.*
38. * ,, bruijni *Oust.*
39. ***?? Seleucides ignotus ignotus (*Forst.*).
39 *a.* ,, ,, auripennis *Schlüt.*
40. *? Falcinellus astrapioides *Rothsch.*
41. * ,, striatus striatus (*Bodd.*).
41 *a.* — ,, ,, meyeri (*Finsch*).
42. *? Pseudastrapia lobata *Rothsch.*
43. *° ,, ellioti (*Ward*).
44. * Astrapia nigra (*Gm.*).
45. *** ,, rothschildi *Foerster.*
46. ** ,, stephaniæ (*Finsch & Meyer*).
47. * ,, splendidissima *Rothsch.*
48. * Schlegelia wilsoni (*Cass.*).
49. ***?? Cicinnurus regius regius (*Linn.*).
49 *a.* ,, ,, coccineifrons *Rothsch.*
50. *? ,, lyogyrus *Currie.*

51. *? Cicinnurus goodfellowi *Grant* (=Cicinnurus regius × Diphyllodes gulielmi-tertii).
52. * Diphyllodes magnificus magnificus (*Penn.*).
52 *a.* *?? ,, ,, chrysopterus *J. Gould.*
52 *b.* ***?? ,, ,, hunsteini *A. B. Meyer.*
53. ***?? ,, gulielmi-tertii *A. B. Meyer.*
54. Semioptera wallacei wallacei (*G. R. Gray*).
54 *a.* ,, ,, halmaheræ *Salvad.*
55. Paradisea apoda apoda *Linn.*
55 *a.* * ,, ,, novæ guineæ *Alb. & Salvad.*
55 *b.* *** ,, ,, augustæ-victoriæ *Cab.*
55 *c.* ***! ,, ,, granti *North.*
55 *d.* ** ,, ,, intermedia *de Vis.*
55 *e.* ** ,, ,, raggiana *Scl.*
56. * ,, minor minor *G. Shaw.*
56 *a.* *** ,, ,, finschi *A. B. Meyer.*
56 *b.* ,, ,, jobiensis *Rothsch.*
57. ,, decora *Salvin & Godm.*
58. ***o ,, maria *Reichenow* (=Paradisea gulielmi × P. apoda augustæ-victoriæ).
59. *** ,, gulielmi *Cab.*
60. ** ,, rudolphi (*Finsch*).
61. ,, rubra *Daud.*
62. ***?? Manucodia atra atra (*Less.*).
62 *a.* ,, ,, altera *Rothsch. & Hartert.*
63. * ,, chalybata chalybata (*Penn.*).
63 *a.* ***?? ,, ,, orientalis *Salvad.*
63 *b.* ,, ,, jobiensis *Salvad.*
63 *c.* * ,, ,, rubiensis *A. B. Meyer.*
64. ,, comrii *Scl.*
65. * Phonygammus keraudreni keraudreni (*Less. & Garnier*).
65 *a.* ,, ,, gouldi (*G. R. Gray*).
65 *b.* ** ,, ,, jamesi *Sharpe.*
65 *c.* ,, ,, hunsteini *Sharpe.*
66. Lycocorax pyrrhopterus pyrrhopterus (*Bp.*).
66 *a.* ,, ,, morotensis *Schl.*
66 *b.* ,, ,, obiensis *Bernst.*

Note.—The species marked with ONE star come from Dutch, those with TWO stars from British, and those with THREE stars from German New Guinea. Those with NO star are from various adjacent islands or Australia. The addition to the stars of a query means known from unique specimen, of o from two specimens, and ! from three specimens. Where a form occurs in several places a double query follows the stars.

XI.—*A Note concerning Red Grouse on the Continent.*

By W. Somerville, Professor of Rural Economy, Oxford.

It is no doubt within the knowledge of many that the Red Grouse (*Lagopus scoticus*) of the British Isles has been successfully introduced on the Continent, but it may not be so well known how remarkably the bird has thriven in its new quarters. In September last I had occasion to visit the Hohe Venn, that elevated region of moorland situated along the Germano-Belgian frontier south of Spa, and as I was aware that it was in this district that the experiment in acclimatization had been made, I naturally kept a look-out for examples of the bird, and in a short walk over a moor I flushed a strong covey.

The experiment has been watched with interest by continental sportsmen, and its progress has been noted in various periodicals, amongst others, 'Das Waidwerk im Wort und Bild,' 1896, pp. 81 & 161, 'Die Allgemeine Forst und Jagd Zeitung,' 1901, p. 399, and 'Das Centralblatt für das gesammte Forstwesen,' 1901, p. 323. From these we learn that the first attempt was made in Kreis Malmedy by A. Barry-Herrfeldt, of Schloss Marteau, who in October 1893 liberated some birds, which, however, only survived a fortnight. In the following December another attempt was made, but it also ended in failure. In August 1894 the same experimenter imported fifty pairs, and by the autumn of 1895 they or their progeny had spread all over the Hohe Venn. By 1901 the number of birds in the two "Kreise" of Malmedy and Montjoin was estimated at 1000 head, and this in spite of regular shooting for some seasons.

The successful outcome of the experiment has had a marked effect on the sporting value of land in the neighbourhood, shooting rents having risen greatly in value.

As regards close time, and penalties for killing out of season or by illegal methods, Belgium and Germany have practically bracketed the Grouse with the Partridge—that is to say, it is protected from December 1 to August 31—the penalty for killing a bird out of season being M. 6 in Germany, and presumably about the same in Belgium.

XII.—*Obituary.*

Captain SHELLEY, Dr. A. B. MEYER, Mr. W. E. D. SCOTT, and Dr. CARL PARROT.

Captain GEORGE ERNEST SHELLEY.

CAPTAIN SHELLEY, who died at Bournemouth on the 29th of November last after a long illness, was the youngest son of the late Mr. John Shelley, of Avington, Hants, the poet's younger brother. He was born in 1840 and educated privately in England, after which (1852 to 1855) he studied in France at the Lycée de Versailles. In 1862 he attended courses of Lectures on Applied Mechanics by Professor Tyndall and on Geology by Professor Ramsay. In March of that year he was elected a Fellow of the Geological Society.

Shelley joined the Grenadier Guards in 1863, but his gifted and scientific mind, and an aptitude for research, seemed to unfit him for the monotonous routine of a soldier's life, and after a few years' service in the Guards, he retired with the rank of Captain. A short time afterwards he was attached to a Commission sent out by the Government to South Africa, to initiate a geological survey.

Captain Shelley would, in all probability, have made his mark as a geologist, if circumstances had not diverted his attention to Ornithology, which henceforward became the chief and absorbing interest of his life. In 1872 he published his 'Handbook to the Birds of Egypt,' which was followed, in 1880, by his 'Monograph of the Nectariniidæ, or Family of Sun-birds.' This was a handsome quarto volume, profusely illustrated by the artist Keulemans. This work was the result of frequent expeditions to the African Continent and many years' study of bird-life in Australia, Burma, and the Portuguese Settlements in Angola. When Captain Shelley first visited the Ethiopian region little was known about the avifauna of this "metropolis of birds," where, as he tells us, "every bush resounds with their melody." The materials dealt with in that sumptuous volume on the

Sun-birds were published in Parts, from July 28, 1876, to February 1880. The Family of the Nectariniidæ, he tells us, inhabits Africa, Madagascar and the neighbouring islands, Palestine, Southern Asia, Sumatra, Java, Borneo, the Philippines, Celebes, New Guinea, North Australia, and the Papuan and Moluccan Archipelagos. They are not found in Europe or North Africa, Northern Asia, nor in any portion of the Western Hemisphere. Captain Shelley's first attraction towards the family of Sun-birds took place in Nubia, where he fell in with "the first truly tropical form of bird that he had ever procured." "The sense of pleasure"—as he tells us—"with which I preserved my first specimens of this beautiful little bird on the banks of the Nile above the First Cataract, and the engaging habits of the species, impressed me so much that on all my subsequent visits to the African Continent I paid especial attention to the Sun-birds in every country I visited." In 1870, Captain Shelley heard that the late Marquis of Tweeddale and Mr. Bowdler Sharpe contemplated the production of a Monograph of the Nectariniidæ, and it was only on their making no signs in this direction that, after the lapse of some years, he commenced to write his now famous work. To employ his own words: "If I have succeeded in reducing the family to a better state of order than it before exhibited, it is in a great measure due to the kindly assistance which I have received from ornithologists in all parts of the world; while at the same time I feel that I have left no stone unturned, nor spared any pains in my endeavour to make my Monograph as complete as circumstances would allow." Captain Shelley was ably assisted by Dr. Bowdler Sharpe, who put him in the right road at the commencement, and lent him every sort of assistance throughout, wherever doubtful points required advice. The late Marquis of Tweeddale generously placed the whole of his valuable collection of Sun-birds at Shelley's service. This included a large number of examples of the scarce Philippine forms, without which the work would have been imperfect. So great an undertaking required encouragement, especially at the outset, and Dr. Günther gave Shelley every assistance at the British Museum, besides the stimulus he needed. Captain Shelley was an excellent shot and was never happier than when in pursuit of specimens of rare birds, which he collected for the information of ornithologists in all parts of the world.

In 1896 Shelley published the first volume of his 'Birds of Africa,' a work intended to consist of a series of handy volumes dealing with the Ethiopian Avifauna, each volume being in itself complete. Four volumes followed at intervals, but the first part of the fifth volume, which appeared in 1906, was destined to be the last from Shelley's own pen, for a sudden illness, a stroke of paralysis, brought his labours to an end.

When the first volume of 'The Birds of Africa' was published, Captain Shelley had sketched out the classification which he adopted down to the "Keys of the Species," which he had intended to bring out as the second volume of the Series. But as the number of known Ethiopian forms increased very rapidly he realized how imperfect these "Keys" would be by the time he came to write the histories of the species. He, therefore, decided to work out each family in a monographic form. The classification was compiled partly from Seebohm's 'Classification of Birds,' and partly from that proposed by Sharpe at the Ornithological Congress held at Buda-Pest in 1896.

It is understood that arrangements have been made with Mr. W. L. Sclater, formerly Director of the South African Museum, Cape Town, and author of 'The Fauna of South Africa,' to complete Captain Shelley's work.

Captain Shelley was for many years an active member of the British Ornithologists' Union, and from 1870 to 1894 made numerous contributions, chiefly on African birds, to the pages of 'The Ibis,' as will be seen by our List of his principal publications. He possessed great natural abilities, with something of that genius which has made the family-name famous. Gifted as he was by nature, he might have turned his mind to anything, and would have made his mark in almost any direction. He possessed a wonderful memory, an infinite capacity for taking pains, and a facility for literary expression, attributes in which he resembled his celebrated uncle, the Poet. In youth he strongly resembled the Poet in personal appearance, a fact imparted to the present writer, nearly fifty years ago, by one who remembered to have seen the young poet at Field Place. To the last hour of his life Captain Shelley was distinguished by that inborn gentleness, modesty, and courteous bearing which constitute, in the highest sense, the well-born gentleman. It was the same quality in the persecuted poet which, after Shelley's death, evoked the verdict of Byron, and the same may be said with equal truth of his nephew: "Shelley"—said Byron—"was, in every situation in life, always the perfect gentleman."

Captain Shelley was for many years well known as a first-rate pigeon-shot. We once heard him playfully remark, "I shew my love for dicky-birds by killing them!" As a pigeon-shot he won many trophies at Hurlingham, at the Gun Club, and at Monte Carlo.

In 1889, Captain Shelley married Janet, daughter of the late Mr. E. Andrewes, who, with two sons and a daughter, survives him. R. Edgcumbe.

Appendix.

List of the late Captain Shelley's principal Publications.

1870.

The Ibis.

Letter on *Elanus cœruleus*, p. 149.

Description of Two new Birds from Egypt, p. 445.

1871.

The Ibis.

Contributions to the Ornithology of Egypt, pp. 38, 131, 309.

1872.

The Ibis.

With T. E. Buckley.

Two months' Bird-collecting on the Gold Coast, p. 281.

A Handbook to the Birds of Egypt.

1873.

THE IBIS.

Descriptions of Six new Species of West African Birds, p. 138.

1874.

THE IBIS.

Description of a new Timaliine Bird from West Africa, p. 89.

Note on *Dryotriorchis*, a new Genus of Harrier-Eagles from West Africa, p. 90.

1875.

THE IBIS.

Three Months on the Coast of South Africa, p. 59.

A few stray Notes on African Birds, p. 379.

1879.

PROC. ZOOL. SOC.

On a Collection of Birds from the Comoro Islands, p. 673.

Descriptions of Two new Species of African Birds, p. 679.

1880.

THE IBIS.

Descriptions of Four new Species of East African Birds, p. 333.

A Monograph of the Nectariniidæ, or Family of Sun-birds.

1881.

THE IBIS.

On new Species of East Africn Birds, p. 115.

PROC. ZOOL. SOC.

List of Birds recently collected by Dr. Kirk in Eastern Africa, p. 561.

1882.

PROC. ZOOL. SOC.

List of Birds recently collected by Dr. Kirk in Eastern Africa, p. 304.

List of the Birds sent home by Mr. Joseph Thomson from the River Rovuma, East Africa, p. 302.

On some new Species of Birds from South Africa, p. 336.

THE IBIS.

On a Collection of Birds made by Mr. J. S. Jameson in South-Eastern Africa, with Notes by Mr. T. Ayres, pp. 236, 349.

1883.

THE IBIS.

On the Columbidæ of the Ethiopian Region, p. 258.

A List of the Birds collected by the late Mr. W. A. Forbes in the Niger Region, p. 538.

1884.

Proc. Zool. Soc.

On Five new or little-known Species of East African Birds, represented in Mr. H. H. Johnston's First Collection from the Kilima-njaro District, p. 554.

The Ibis.

On Two new Species of Birds from Africa, p. 45.

1885.

Proc. Zool. Soc.

With H. H. Johnston.

On the Collection of Birds made by Mr. H. H. Johnston in the Kilima-njaro District; with Field-notes by Mr. H. H. Johnston, F.R.G.S., p. 222.

The Ibis.

Review of the Species of the Family Coliidæ, p. 307.

On Mr. Lort Phillips's Collection of Birds from Somaliland, p. 389.

1886 and 1887.

The Ibis.

A Review of the Species of the Family Ploceidæ of the Ethiopian Region, 1886, p. 301; 1887, p. 1.

Description of a rare Species of Plover from the Cameroons Coast, 1887, p. 417.

Proc. Zool. Soc.

With H. H. Johnston.

On a Collection of Birds made by Mr. H. H. Johnston in the Cameroons Mountain, 1887, p. 122.

Appendix to Capt. A. Moloney's 'Sketch of the Forestry of West Africa,' containing Ornithology, Coleoptera, and Diurnal Lepidoptera of the Gambia. 1887.

1888.

Proc. Zool. Soc.

On a Collection of Birds made by Emin Pasha in Equatorial Africa, p. 17.

The Ibis.

On the Hornbills of the Ethiopian Region, p. 47.

List of Birds collected by Mr. F. J. Jackson in Eastern Africa, p. 287.

Bird-portion of F. L. James's 'The Unknown Horn of Africa: an Exploration from Berbera to the Leopard River.'

1889.

Proc. Zool. Soc.

On the Birds collected by Mr. H. C. V. Hunter, F.Z.S., in Eastern Africa, p. 356.

The Ibis.

On some new Genera and Species of the Family Capitonidæ, p. 475.

1890.

The Ibis.

On a Collection of Birds made by the late Mr. J. S. Jameson on the Aruwhimi River, Upper Congo, p. 156.

1891.

Catalogues of the Picariæ, Indicatoridæ, Capitonidæ, Cuculidæ, and Musophagidæ in the Collection of the British Museum, in vol. xix. of the Catalogue of Birds.

1893 and 1894.

The Ibis.

List of Birds collected by Mr. Alexander Whyte, F.Z.S., in Nyasaland, 1893, p. 1; 1894, pp. 1, 461.

1896.

The Ibis.

On a Collection of Birds from Mount Chiradzulu, in the Shiré Highlands, Nyasaland, p. 177.

On a Collection of Birds made by Mr. Alfred Sharpe in the Zomba District of Nyasaland, p. 229.

1897.

The Ibis.

On the Birds collected by Mr. A. Whyte during his Expedition to the Nyika Plateau in N. Nyasaland, p. 518.

1898.

The Ibis.

On the Final Collections of Birds made by Mr. A. Whyte in Nyasaland, p. 376.

A List of the Birds collected by Mr. Alfred Sharpe, C.B., in Nyasaland, p. 551.

1899.

The Ibis.

On a Collection of Birds from the Vicinity of Zomba, British Central Africa, forwarded by Lt.-Col. W. H. Manning, with a Note by P. L. Sclater, p. 281.

On a Collection of Birds from the Tanganyika Plateau, in British Central Africa, p. 364.

1901.

THE IBIS.

On some Collections of Birds from the Protectorate of British Central Africa, received in 1899 and 1900. With an Introduction by P. L. Sclater, p. 161.

On a Collection of Birds from Nyasaland, p. 586.

The Birds of Africa, comprising all the Species which occur in the Ethiopian Region, Vols. i.–v. pt. 1 (1896–1906).

With much regret we have also to record the death of our Foreign Member, Dr. A. B. MEYER, and of two other Ornithologists, who, although not members of our Union, have done excellent work for our Science. These are Mr. W. E. D. SCOTT, the author of an important memoir on the Birds of Jamaica, published in 'The Auk' (1901–2), and other papers, and Dr. CARL PARROT, of Munich, the Founder of the "Ornithologische Gesellschaft in Bayern," and the Editor of its Journal. We hope to be able to give further details on their work in our next number.

XIII.—*Notices of recent Ornithological Publications.*

[Continued from p. 182.]

28. *Allen on Brisson's 'Genera of Birds.'*

[Collation of Brisson's Genera of Birds with those of Linnæus. By J. A. Allen. Bull. American Mus. N. H. xxviii. p. 317 (1910).]

This is a complete and most useful *résumé* of the much-discussed question of the validity of Brisson's generic names of Birds, which those who are interested in terminology should not fail to study carefully. To those who use the last and most perfect edition of the 'Systema Naturæ' as the commencement of Zoological Nomenclature it is not of such great importance. But, whatever may be the result, we believe that the "Ultra-prioritarians," being not agreed amongst themselves, will fail in their attempts to persuade the writers in Zoology to adopt a uniform nomenclature, and that it is obvious in many cases to admit that the numerous changes of even the commonest names now proposed will not be generally recognised and that, in fact, they will only lead to more confusion. For example, Mr. Richmond wishes to change the name of the Tanagers of the genus "*Euphonia*" to "*Tangara*," while Dr. Allen declares that the latter term should take the place of the name of the genus formerly called *Calliste* and more recently *Calospiza*. This suggestion, if carried out, would involve the alteration of some 50 or 60 names. There are many other cases of the same sort. With due respect, therefore, to Dr. Allen and fully recognising the good work that he has done, we cannot advise our friends to follow his lead in this matter.

29. '*Annals of Scottish Natural History.*'

[The Annals of Scottish Natural History. A Quarterly Magazine, with which is incorporated the 'Scottish Naturalist.' Oct. 1910, Jan. 1911.]

In the first of these numbers Misses Baxter and Rintoul conclude their 'Report on Scottish Ornithology' for 1909 with various notes from the 'Annals,' the 'Glasgow Naturalist,' 'British Birds' and elsewhere (*cf.* Ibis, 1910, p. 731). The importance of their work cannot be overrated, as, though the occurrences of rare birds are usually recorded in the same magazine, we have here the whole series arranged in order, with short notes and references.

The next article is by the Duchess of Bedford on two visits to the desolate island of North Rona, where the Fulmars and other birds seem to have increased greatly. Her Grace made a number of interesting observations on the avifauna, but was unsuccessful in trapping small mammals. Among the "Zoological Notes" which conclude the number we find two of more than usual interest by Mr. Eagle Clarke and Mr. Harvie-Brown, with regard to fresh arrivals of Crossbills from abroad in the summer and autumn of 1910. We may also mention Mr. W. Evans's note on the breeding of the Gadwall and Wigeon in the Forth area.

In the January number Misses Baxter and Rintoul give us the full particulars of their work in the Isle of May from September 2nd to October 18th, 1910. Holböll's Redpoll and the Northern Bullfinch were procured after their departure, while the Siberian Chiffchaff, the Wood-Lark, and the Lapland Bunting were also new to the Forth area. Mr. Landsborough Thomson writes on the Heronries of "Dee"; he suggests a census of the birds, and Mr. Harvie-Brown comments on the article. In the "Zoological Notes" we have again two items of special interest by Mr. Eagle Clarke—on the birds observed at Fair Isle in 1910, and on Crossbills, Mealy Redpolls, and Bullfinches in Scotland respectively. The new birds observed during the year at Fair Isle were *Acanthis exilipes, A. linaria holboelli, Parus major, Cygnus bewicki, Somateria spectabilis, Phalaropus fulicarius,* and *Totanus flavipes.* The two first and the last are new to Scotland also.

30. *'Aquila.'*

[Aquila. Zeitschrift für Ornithologie. Redact. Otto Herman. Tom. xvi. 1909; Tom. xvii. 1910. Buda-Pest.]

It is, unfortunately, impossible in our limited space to enter fully into all the articles in these two fine volumes of our contemporary; but we may mention the chief of them, which, as usual, treat mainly, though not entirely, of Bird Preservation and Migration. On the first of these subjects Messrs. T. Csorgey and W. Froggatt write of Hungary and Australia respectively, while on the latter we find a long series of good papers by such experts as Dr. O. Finsch, Messrs. J. Schenk, K. Hegyfoky, F. Victor, and J. Greschik. The Editor, Mr. Otto Herman, gives us a sketch of the work of the Hungarian Central Ornithological Bureau, and of the Fifth International Congress at Berlin, while he also writes an obituarial notice of the late Professor Newton and publishes his correspondence with the Professor on Bird Protection. Then we have articles on the food of Birds by Messrs. E. Csiki, I. Chernel, and J. Greschik; Mr. D. Lintia gives his experiences during a tour in the Dobrudscha; and Mr. J. Schenk a report on Bird-marking in

Hungary for each year separately. Mr. Herman also writes on J. F. Naumann's visit to Hungary in the year 1835; and there are many other papers on individual species of birds and so forth, the most important of which seem to be those on the breeding of the Rosy Pastor in Hungary in 1909 and the great incursion of Crossbills in the same year.

31. '*Avicultural Magazine.*'

[Avicultural Magazine. Third Series. Vol. ii. Nos. 1–5 (November 1910–March 1911).]

The first four numbers of this volume contain several articles of general interest to Ornithologists besides those specially devoted to aviculture. Of these we may first mention Dr. Günther's account of the longevity of certain birds which he has kept (*cf.* Avicult. Mag. 1910, pp. 259, 299), and Mr. L. Seth-Smith's notes on some interesting Uganda birds and their nests (Kilimanjaro Sun-bird, Paradise Flycatcher, Shelley's Coly, Crested Crane, Emin's Warbler, and so forth). The same writer and Mr. W. L. Sclater respectively write on Ross's Touraco (col. pl.) and the Bromvogel (*Bucorax cafer*) in their native lands and in captivity; while Mr. D. Seth-Smith discusses the case of the Common Quail and its destruction for culinary purposes. Lady William Cecil gives us her ornithological experiences in the Egyptian Desert, Dr. Butler a dissertation on the revelation of Ignorance by Knowledge, and Mr. D. Seth-Smith his usual important notes on the Zoological Gardens and their new acquisitions.

Of more strictly avicultural papers we have those by Mr. R. Holden on a hybrid between *Hyphantornis cucullatus* and *H. spilonotus*, by Mr. G. Rattigan on the latter breeding in captivity, by Mr. Fasey on his Parrakeets, by Mr. Amsler on the nesting of *Otocompsa jocosa*, by Mr. St. Quintin on the Little Bustard, Australian Thicknee, and Common Scoter at his Scampston aviaries (especially the plumages of the first-named), by Mr. R. Phillipps on the breeding of *Emblemma pictum*, by Mr. A. Silver and Mr. J. L. Bonhote on Crossbills nesting in confinement (col. pl.), and by Mr. Warren-Vernon on captive Rheas.

Mrs. Stanley Flower pleads for better surroundings for cage-birds, Mrs. Gregory writes on Pheasants and the Jay, and G. A. M. furnishes notes of a bird-keeper in Liguria.

But perhaps we ought to consider as the chief asset in these numbers the commencement of a series of articles on "Practical Bird-keeping." The first, by Dr. Butler, is on the "Culture of Finches"; the second, by Mr. W. E. Teschemaker, on "The British Warblers." Such articles by well-known experts in the art will be of great interest and advantage to the avicultural public.

32. *Beetham on the Spoonbill, White Stork, Common and Purple Herons.*

[The Home-Life of the Spoonbill, the Stork, and some Herons. By Bentley Beetham. London: Witherby & Co., 1910. 8vo, pp. 1–47, 32 pls.]

This book is uniform with Mr. Macpherson's 'Home Life of a Golden Eagle' ('Ibis,' 1910, p. 207) and similarly illustrated. The species treated in it have been more often watched at their breeding-quarters than the Eagle, and therefore less that is new can be brought forward, but Mr. Beetham has studied the birds with the greatest care, and has furnished us with a valuable summary of their habits, accompanied by excellent photographic reproductions of the nests, young, and parent birds under various circumstances. The curvature of the mandibles of the Spoonbill, and its method of regurgitating food for the young are points upon which the author lays considerable stress, while he shews that young Storks, on the contrary, are fed with disgorged substances. A small tent was used to conceal the camera, as is generally found necessary in such work.

33. *British Museum Collectors' Instructions.*

[British Museum (Natural History). Instructions for Collectors. No. 2. Birds. 4th Ed., 1908.]

This useful little pamphlet gives instructions for skinning birds, the instruments required, and the method of determining the sex. It would have been still more useful if the collectors had been urged to procure specimens in all stages of plumage, including those in moult, which are perhaps more needed nowadays than further consignments of birds in full dress.

34. *Carriker on the Birds of Costa Rica.*

[An annotated List of the Birds of Costa Rica, including Cocos Island. By M. A. Carriker, Jr. Reprinted from the 'Annals of the Carnegie Museum,' vol. vi. no. 4, August 1910.]

Our American fellow-workers in Ornithology, having well-nigh exhausted the Avifauna of North America, have for several years turned their attention to Central America and the northern portion of South America, and have done excellent work in both these countries. Costa Rica, which Mr. Carriker has selected as his special field of study, is, perhaps, the most attractive portion of the central neck which joins these two portions of the Western Hemisphere. Its riches in bird-life are unquestionable. Mr. Carriker's "List" contains the names of more than 750 species as met with in this little Republic, and it is quite evident, from what he tells us, that by far the greater part of its wilds is absolutely unexplored, so that many additions will still be made to the series. But it must be recollected that Mr. Carriker is a thorough believer in "subspecies," and places them on an equality with species, which, of course, considerably increases the number in his List. Mr. Carriker's "Prefatory Note" commences with an interesting physical description of the Republic, which is very mountainous and very densely wooded. It is naturally separated into two slopes by the high central range which divides the waters flowing into the Atlantic from those that fall into the Pacific. He then gives us some account of the collectors who have visited Costa Rica, and a list of the titles of their papers. Nearly all are, as would have been expected, Americans, and amongst these are Mr. Carriker himself and Mr. Ridgway, the author of the great work on the 'Birds of North and Middle America.'

Proceeding to the systematic portion of the memoir, we find every one of the 753 species and subspecies enumerated in the order adopted in the 'Check-list,' so far as that is applicable, but not described, except in certain cases where "keys" are given. The localities and collectors are exactly stated, and excellent field-notes are often added.

The following species and subspecies are provided with new names:—

Crypturus soui panamensis, *Columba flavirostris minima*, *Chamæpelia passerina neglecta*, *Selasphorus simoni*, *Dendrocincla anabatina saturata*, *Campylorhynchus pusillus borealis*, and *Corapipo altera albirostris*. A new and, in our opinion, very needless generic name, *Dicrorhynchus*, is proposed for *Tetragonops frantzii*, which is a close ally in structure of *T. rhamphastinus*, though of a different style of coloration.

We consider Mr. Carriker's "List" a good and careful piece of work, notwithstanding the numerous trinomials, or, we might say, quadrinomials, as he evidently regards the author's name as an essential part of a specific appellation.

35. *Dresser on Palæarctic Birds' Eggs.*

[The Eggs of the Birds of Europe, including all the Species inhabiting the Western Palæarctic Area. By H. E. Dresser. Parts XXIII. & XXIV. London. 4to. November, 1910.]

With this double part Mr. Dresser concludes his admirable work on Palæarctic Oology, and he is to be congratulated on the successful termination of what he tells us has been a labour of love, as well as on the number of very rare or almost unknown eggs which he has been able to figure. We now have the conclusion of the *Laridæ*, the *Stercorariidæ*, *Procellariidæ*, *Alcidæ*, and *Colymbidæ*; while in an Appendix the author adds notes on *Turdus naumanni*, *T. ruficollis*, *T. varius*, *Saxicola leucopyga*, *Sylvia nana*, *S. mystacea*, *S. momus*, *S. melanothorax*, *Melizophilus deserticola*, *Phylloscopus viridanus*, *P. neglectus*, *P. nitidus*, *Emberiza citrinella*, *Melierax polyzonus*, *Plotus rufus*, and *Tringa acuminata*, and also makes some additions and corrections in the case of other species. The eggs of *Turdus ruficollis*, *Sylvia momus*, *S. melanothorax*, *Phylloscopus viridanus*, *Plotus* *rufus*, and *Numenius tenuirostris* are now figured for the first time; while those of *Turdus naumanni* are refigured, as there appears to have been some uncertainty in the case of former specimens.

The text requires but little comment, though we may remark that, while Mr. Dresser's pages were in the press, Dr. Sclater exhibited an egg of the Great Shearwater, hitherto unknown, from Tristan da Cunha (*cf.* Bull. B.O.C. vol. xxii. p. 22), and that the record of the Sooty Shearwater from the Forth area should be attributed to W. Evans instead of A. H. Evans.

The plates are, as usual, excellent, though perhaps the Guillemot's eggs might have been rather brighter, and we feel quite sorry to bid farewell to such a fine series of illustrations, accompanied as they are by Mr. Dresser's careful and accurate information.

36. *Ferry on Birds from Costa Rica.*

[Catalogue of a Collection of Birds from Costa Rica. By J. F. Ferry. Field Museum of Nat. Hist. Ornithological Publ. i. no. 6. Chicago, 1910.]

Mr. J. F. Ferry, Assistant in the Ornithological Department of the Field Museum of Natural History at Chicago, made an excursion to Costa Rica in the spring of 1908, and collected birds in various localites on the Atlantic slope of that country. In the present memoir, after a preface containing an account of the places where he stopped, the author gives a list of the species represented in the collection which he made, some 120 in number, accompanied by short field-notes. None of these species are new, but some of them are of interest. The difficult forms were referred to the National Museum for exact identification.

A nest of the Quezal (*Pharomacrus mocinno costaricensis*) was found in a dead stump standing in partially cleared forest, some twelve feet from the ground, but it was unfortunately empty.

We think that our American friends, when they use new and little-known terms such as *Semnornis*, *Pselliophorus*, &c.,

should give us some clue to where these names can be found. There is not a single reference to other writers in Mr. Ferry's List—only the bare generic and specific names being given.

37. *Gyldenstolpe on Algerian Birds.*

[Bidrag till Kännedomen om det Högre Djurlifvet i Algeriet, af Nils Gyldenstolpe. Upsala, 1910. 48 pp.]

Count Nils Fersen Gyldenstolpe, of Stockholm, has favoured us with a copy of his article on the vertebrates obtained or observed during a recent tour in Algeria. The species of Birds met with were 98 in number, and short field-notes are attached to the names of each of them. The nomenclature used seems to be that of Dr. Hartert in his 'Palæarctic Birds,' to whom and to Prof. Lönnberg the author renders thanks for assistance in the determination of difficult specimens.

38. *Hartert's 'Miscellanea Ornithologica.'*

[Miscellanea Ornithologica. Critical, Nomenclatorial and other Notes, mostly on Palæarctic Birds and their Allies. By Ernst Hartert, Ph.D., &c. Nov. Zool. xvii. p. 477.]

Dr. Hartert first takes up the very difficult genus *Saxicola*, and says that it is impossible to separate from it the "so-called" genus *Dromolæa*, in which we quite agree with him. But, as will be seen by what follows, there are many other serious questions among the Stonechats as yet undecided.

The author then discusses the scarce and little-known Wrens of the genera *Tesia*, *Spelæornis*, *Sphenocichla*, and their allies, and devotes a plate to their illustration.

Finally, Dr. Hartert endeavours to shew that the correct name of the Green Bee-eater (*Merops viridis*) is *Merops lamark lamark*. But it would be very inadvisable to alter the title of such a well-known species.

39. *Hartert on the Eggs of the Paradise-birds.*

[On the Eggs of the Paradiseidæ. By Ernst Hartert. Nov. Zool. xvii. p. 484.]

Dr. Hartert describes the splendid collection of the eggs of Paradise-birds in the Tring Museum, which, if we include the Bower-birds, contains eggs of 23 different forms. Notes are given as to where and how they were obtained.

A full plate (pl. x.) contains figures of these beautiful objects.

40. *Hellmayr on the Species of* Percnostola.

[Uebersicht der Formen der Gattung *Percnostola*. Von C. E. Hellmayr. Verh. Orn. Gesellsch. Wien, viii. p. 140.]

Mr. Hellmayr writes on *Percnostola*, a Neotropical genus of Formicariidæ. Of this he admits only two of the older species (*P. rufifrons* and *P. r. minor*) as subspecies, and adds a third new subspecies—*P. r. subcristata* from the Rio Negro.

41. *Hellmayr on the South-American Species of* Chætura.

[Uebersicht der sudamericanischen Arten der Gattung *Chætura* (s. str.). Von C. E. Hellmayr. Verh. Orn. Gesellsch. Wien, viii. p. 145.]

The author enumerates 12 South-American species and subspecies of this genus of Swifts, and gives full descriptions and synonymy of each of them. But we confess our inability to understand upon what grounds he calls some of them "species" and others "subspecies." He seems to place them all on an exact equality.

42. *Hellmayr on the Birds of the Rio Madeira.*

[The Birds of the Rio Madeira. By C. E. Hellmayr. Nov. Zool. xvii. no. 3 (Dec. 1910).]

This memoir gives us a complete and well-prepared account of the collection of birds made by the late Mr. W. Hoffmanns in various localities on the Upper Rio Madeira, in 1897 and 1898. The specimens, or most of them, are in the Tring Museum. Mr. Hoffmanns had made a previous collection in the same district, of which Mr. Hellmayr wrote an account in the 'Novitates Zoologicæ' in 1907 (vol. xiv. p. 343). On that occasion also a large selection went to the Tring Museum. Thus, Mr. Hellmayr had a fine series of some 2000 specimens to work upon, and the present article, in which he catalogues 364 species, may be considered as a complete *résumé* of the present state of our knowlege of the Ornis of the Rio Madeira.

After a short introduction, which contains remarks on previous writings on the subject and an exact account of the localities visited by Mr. Hoffmanns, Mr. Hellmayr takes the 364 species in systematic order and adds pertinent remarks on their affinities and relationships. No one knows the birds of Tropical South America better than Mr. Hellmayr, and we consider this a most valuable piece of work, though we cannot, of course, agree to some of his proposed changes of nomenclature. To alter the name of *Xipholena pompadora* would be a great mistake. It is by no means certain that Pallas *was* the author of the "Adumbrationes" or that the *Alcedo dea* of Linnæus was a Jacamar. When it is *quite* manifest that Swainson made an error in writing "*Leptoptila*" without a "*p*," why should we not use the grammatical spelling? Again, why omit the "*h*" in *Platyrhynchus*? We use the Latin language in Science and we ought to follow the rules of the Latin grammar. We are quite certain that Sclater never named a bird *Granatellus pelzelni pelzelni*. Why, then, should it be attributed to him (p. 265)?

Three new names seem to have been first used in this paper—*Tachyphonus cristatus madeiræ*, *Pipra aureola calamæ*, and *Grallaria macularia diluta*.

43. *Hiesemann on the Protection of Wild Birds.*

[How to Attract and Protect Wild Birds. By Martin Hiesemann. Translated by Emma S. Buchheim, with an Introduction by Her Grace the Duchess of Bedford. Second Edition, revised. London: Witherby & Co., 1911.]

This little work, which has passed through three German editions, and of which the first large English edition was soon exhausted, contains an account of the various methods so sucessfully adopted by Baron Hans von Berlepsch for the encouragement and protection of birds on his estate of Seebach in Thuringia.

For many years the Baron has been making experiments in various ways to encourage the breeding of birds, and he has devoted an area of about 500 acres of park-land, thickets, and forest to this purpose.

His methods consist, first of all, in the provision of nesting-boxes for those birds, such as Woodpeckers, Tits, Stock-Doves, Kestrels, and Owls, which naturally breed in holes of trees. Baron von Berlepsch has, after many failures, planned what he believes to be a perfect imitation of a natural Woodpecker's nest-hole, and he finds that at least 90 per cent. of the boxes placed in his woods at Seebach are occupied the first year.

Another method adopted by the Baron is the formation of special plantations of thicket for birds which breed in the open. Very precise directions are given for planting such thickets. The most satisfactory shrub was found to be White-thorn (*Cratægus oxyacantha*) while the Hornbeam (*Carpinus betulus*) was much utilized, with a few Mountain Ashes, Red Cedars, and Firs, interspersed. By careful pruning and cutting out completely impenetrable thickets can be formed in about nine years, and so satisfactory is the result that in one particular instance 85 nests were found in one plantation measuring only 230 yards long and 8 yards wide.

Another chapter of the book contains an account of the methods of feeding birds in winter by food-trees and food-bells, and other ingenious contrivances, for the construction of which full directions are given.

There can be no doubt that in Germany, owing to the rigid method of forestry, by which all dead and decaying trees and branches are removed, and because of the comparative absence of hedges and coverts, the smaller birds are not nearly so abundant as they are in England, and that Baron von Berlepsch's instructions are very valuable for the encouragement of birds which are so necessary for successful agriculture. It is to be hoped, therefore, that his example may be followed in other parts of Germany and in other countries, and that the inestimable value of insectivorous birds in all agricultural and horticultural operations may be more generally recognised.

We can cordially recommend this book to the attention of those who love birds, and are anxious to encourage them in their gardens and parks.

44. *Howard on the Warblers.*

[The British Warblers. A History with Problems of their Lives. By H. Eliot Howard. Part 5. London, 1910. 8vo. R. H. Porter.]

We have now before us another part of Mr. Howard's monograph on the Warblers, once more filled with beautiful plates and uncoloured photogravures (*cf.* 'Ibis,' 1910, p. 363). The letterpress is almost entirely devoted to the Reed-Warbler, of which a full and exact account is given from the time it arrives upon our shores until its departure, with many interesting notes upon its breeding-habits, nesting-places, and the position of the nest. Its migration is also considered, and, as usual, the author enters into a discussion of the reasons for the various habits, and is not content merely to give the facts, so that we have many pages of most interesting matter. The only other species given in this part is *Hypolais polyglotta*, but the illustrations are of the Great Reed-Warbler and the Aquatic Warbler, as well as of the two species mentioned, and maps are furnished of the geographical distribution of the Reed-, Marsh-, and Great Reed-Warblers.

45. *Innes Bey on the Birds of Egypt.*

[Dr. W. Innes Bey: Avifaune de l'Egypte. 1^e Partie. I. Turdidæ, Timeliidæ, et Muscicapidæ. Cairo, 1910.]

It is quite true that, as Dr. Innes Bey states, Shelley's 'Birds of Egypt' is out of print, and that it was published nearly 40 years ago, but we are not sure that the 'Avifaune de l'Egypte,' if completed in the style of the first part, which is now before us, is likely to supply the void thus caused. Dr. Innes Bey is, we believe, a resident in Egypt, and should surely have some knowledge of the habits and localities of its birds from his own personal observation before he begins to write on them. If this is so, he has not treated the readers of his pages with much of it, nor does he even take notice of the information on the subject supplied by others. Under the head of each species we find a long French description, a few synonyms, not always correctly quoted, and a general sketch of the range, but no statement of the exact mode of its occurrence in Egypt, except of the most general kind. Take, for example, the first species on the List—*Sylvia nisoria*. All we are told about its occurrence is: "Elle traverse quelquefois l'Egypte au printemps et à l'automne." Nearly all the occurrences of the different birds are described in the same meagre and unsatisfactory manner. The Robin is said to be "assez commun dans la Basse-Egypte." We believe that it is a regular winter-visitor at Cairo, but always goes north in summer.

46. *Jourdain on European Birds' Eggs.*

[The Eggs of European Birds. By Rev. Francis C. R. Jourdain. Part IV. London, 1910. 8vo, pp. 241–320, pls. 23, 27, 30–33, 35–38.]

After treating of the Flycatchers, this part of Mr. Jourdain's book takes us through a considerable portion of the Warbler group. The distribution and breeding-range are, as usual, carefully worked out, and an excellent account is given of the nesting-habits, the nest itself, and the eggs. So excellent, indeed, are the descriptions that we can only recommend our readers to pay great attention to them all; while, as we entirely agree with the author in nearly every particular, we will conclude by mentioning a few instances where our experience does not coincide with his, or where fresh information has come to hand since his pages were written.

The Chiffchaff is said to be a mere straggler in Scotland to the north of the Forth and Clyde, but it certainly nests in small numbers, at least in some years, in the Loch Maree district of Ross-shire. Moreover, the spots on the eggs of the subspecies found in Grand Canary seem to us reddish rather than brown. Brown, however, is a comparative word in the coloration of eggs, for we see it used again by Mr. Jourdain in regard to the Willow-Warbler's egg, where the markings, to our mind, are red. In the woods of Northumbria the Wood-Warbler is certainly plentiful and made very conspicuous by its note, but we know of no district where it actually outnumbers the more inconspicuous Willow-Warbler, though such may be the case locally. Our experience also differs as to the fact of the hen bird being a close sitter. When the eggs are "hard-set" such is doubtless the case, but a series of observations made during some twenty years shew that, even when there is a full clutch of fresh eggs, it is seldom possible to approach quietly enough to find the bird on her nest. She usually leaves it "at long range."

Again, the Grasshopper-Warbler is even now plentiful in many years in the Cambridgeshire Fens, and builds there on the ground among the sedges, more commonly than in the grass. A single specimen of the Reed-Warbler has now been taken at an Irish lighthouse, and Evans has found a Marsh-Warbler's nest in a tuft of Willow Herb at Horsey in Norfolk.

47. *Loudon on the Birds of the Baltic Provinces.*

[Vorläufiges Verzeichnis der Vögel der russischen Ostprovinzen Esthland, Livland und Kurland. Von Harold, Baron Loudon-Lisden. Ann. d. Mus. Zool. Acad. Imp. Sc. St. Pétersbourg, 1909.]

We are all acquainted, more or less, with the excellent work Baron Loudon is doing on the Birds of the three Baltic provinces of Russia. We have now received a copy of what appears to be a kind of summary of his work and a revised list of the species as yet recognised as occurring in this interesting district.

After a preface, which deals with previous authorities on the subject, follows the list of the birds of the three Provinces in a tabular form, which contains the names of 300 species. It also states in which of the three Provinces the species occurs, and whether it is a resident or a more or less scarce visitor. Altogether we find enumerated :—

Residents	54
Summer Visitors	143
Passengers	40
Winter Visitors	16
Accidental Visitors	47
	300

We think that students of the Palaearctic Avifauna will find this a very useful and instructive list.

48. *McGregor's 'Manual of Philippine Birds.'*

[A Manual of Philippine Birds. By Richard C. McGregor. Part I. Galliformes to Eurylæmiformes. Manila, 1909. 8vo, 412 pp.]

Much has been written about the attractive Avifauna of the Philippine Archipelago, and from time to time several Lists of the species belonging to it have been published. But this is the first attempt at a regular account of it accompanied by descriptions, and is the more valuable as the literature of the subject is widely scattered over various periodicals, some of which are not easy of access. The work is based mainly upon the Collection of Birds belonging to the Bureau of Science of Manila, which contains about 8000 specimens.

The general arrangement followed is that of Sharpe's 'Hand-list,' and, like that work, it begins with the lower forms of Bird-life. The present part contains an account of the Orders from the Galliformes up to the Eurylæmiformes, and treats of 378 species. We observe with some satisfaction that the author is a strict Binomialist, and does not find it necessary to employ three names for a species in any case.

The Philippine Ornis is eminently worthy of study, because it presents a curious mixture of Oriental and Palæarctic forms, and because it contains numerous instances of representative species in the various Islands which belong to it. On these points, however, we will defer further remarks until the issue of the second portion of the work, which, we believe, is nearly ready.

49. *Mathews on the Birds of Australia.*

[The Birds of Australia. By Gregory M. Mathews. With hand-coloured plates. Vol. i. pt. 2. London: Jan. 31st, 1911. Witherby & Co.]

The second part of this new work does not lend itself to a lengthy review, as, besides *Pedionomus*, it only comprises the Pigeons of the families *Treronidæ* and *Columbidæ*. But we may remark that the fine plates are quite up to the standard set in the beginning, and are again from the pencil of Keulemans. The letterpress can hardly be expected to contain much new information about these birds, yet

Mr. Mathews has been able to distinguish a new subspecies of *Lopholæmus* (*L. antarcticus minor*), smaller and with narrower tail-band, while he is careful to notice, under the locality of each type specimen, when that locality appears to be erroneous. He hardly approves of the separation of *Leucotreron* from *Ptilinopus* on account of the non-bifurcated breast-feathers, and refuses to keep *Lamprotreron* apart from the last-mentioned genus.

Perhaps we may suggest to the author that, where so many pages are likely to be partly blank, he might fill them by giving full details of the breeding of the various species. This is done in some cases; but in the majority references are given to Campbell's work on Australian Eggs, and in these cases quotations would be much more acceptable.

50. *Mathews' proposed Alterations in Nomenclature.*

[On some necessary Alterations in the Names of Birds. By Gregory M. Mathews. Nov. Zool. xvii. p. 492.]

Mr. Mathews has prepared an account of the alterations of scientific names which require to be made in his 'Hand-list of the Birds of Australia' (Emu, vol. vii. pt. 3, Suppl.) in order to bring it into accord with "a rigid observance of the 'law of priority.'" The proposed alterations are numerous, and fill some twelve closely printed pages. It might be objected that there are no means of enforcing these alterations, but it is, at all events, satisfactory to learn what our friends the "Ultra-prioritarians" require, and we can then make up our minds whether to follow them or not. Here, at least, we have their demands clearly stated, so far as they affect the names in the Australian List.

51. *Moulton on the Sarawak Museum.*

[Eighth Report on the Sarawak Museum, 1908–9. By J. C. Moulton (Curator).]

It is satisfactory to know that the Museum established by the late Rajah Brooke at Kuching in 1891 is making good progress under its new Curator, Mr. Moulton, who succeeded Mr. J. Hewitt in 1899. Insects appear to be its speciality, but we are told that it has also an excellent series of Bornean Birds, and that a catalogue of them has been completed. We hope to be favoured with a copy of this Catalogue when printed.

The most important acquisition of the Bird-collection during 1909 was a specimen of the rare *Machærirhamphus alcinus*, sent from Sungei Tengah by Mr. J. Dalton.

52. '*The Oologist.*'

[The Oologist: Birds, Nests, Eggs, Taxidermy. Vol. xxvi. Nos. 11,12. Albion, N.Y., U.S.A.]

We occasionally receive copies of this periodical, which appears to be very popular in the U.S., and has reached its 26th volume. There are said to be more than 700 subscribers to it. In the 11th No. is an account of a former nesting-colony of the Great Blue Heron in Illinois, now unfortunately deserted. It is nicely illustrated by photographs. The nests were placed on the very topmost branches of a huge cotton-wood tree. White Egrets and Florida Cormorants nested in the same colony.

53. *Parrot on Birds from Siam and Borneo.*

[Ueber eine Vogelsammlung aus Siam und Borneo. Von Dr. C. Parrot. Verh. Orn. Gesellsch. in Bayern, viii. p. 97.]

Dr. Parrot describes two collections in this paper, both made by Dr. Karl Brügel and sent to the Zoological Museum of Munich—the one from Siam and the other from Borneo.

He has compared the specimens with examples in the Tring Museum. The Siamese birds are referred to 25 species (or subspecies), of which two are described as new—*Athene cuculoides bruegeli* and *Coracias affinis theresiæ*. Besides these, after an exhaustive discussion on *Pratincola rubicola* and its allies, the author characterises the form from Japan as a new subspecies under the name *Pratincola rubicola stejnegeri*.

The Bornean birds are referred to 19 species, mostly common and well known.

54. *Roosevelt's 'African Game-Trails.'*

[African Game-Trails, an Account of the African Wanderings of an American Hunter-Naturalist. By Theodore Roosevelt. London: John Murray, Albemarle Street, W., 1910. 8vo, 584 pp.]

Although we allow that the ex-President's account of his travels and "shoots" cannot strictly be called a "Bird-book," yet there are in it sufficient references to bird-life to induce us to invite the attention of our ornithological friends to its issue. Mr. Roosevelt's object was, of course, to combine his shooting propensities with the supply of good specimens of the larger "game-animals" to the great American Museums at New York and Washington. In this he was eminently successful, owing mainly, we believe, to the able assistance rendered to his plans by two well-known English sportsmen, Mr. Selous and Mr. E. N. Buxton, and to the selection of his staff, and, we should add, to the able help of the British officials in East Africa, who appear to have shewn him every possible attention.

But, dismissing for a moment the engrossing "big mammals," we find it quite evident that the writer of this volume has a keen eye for birds. Let us see what he says about the Honey-guides (*Indicator*) and their wonderful habits:—

"While on *safari* at the 'Nzoi I was even more interested in honey-birds which led us to honey than I was in game. John Burroughs had especially charged me before starting for Africa to look personally into this extraordinary habit of the honey-bird, a habit so extraordinary that he was inclined to disbelieve the reality of its existence. But it unquestionably does exist. Every experienced hunter and every native who lives in the wilderness has again and again been an eye-witness of it. Kermit, in addition to his experience in the Sotik, had been led by a honey-bird to honey in a rock near Lake Hannington. Once, while I was tracking game, a honey-bird made its appearance, chattering loudly and flying beside us. I let two of the porters follow it, and it led them to honey. On the morning of the day we reached the 'Nzoi a honey-bird appeared beside the *safari*, behaving in the same manner. Some of the men begged to be allowed to follow it. While they were talking to me, the honey-bird flew to a big tree fifty yards off, and called loudly as it flitted about to and fro in the branches. Sure enough, there was honey in the tree. I let some of the men stay to get it, but they found little except comb filled with grubs. The natives believe that misfortune will follow any failure on their part to leave the honey-bird a share of the booty. They also insist that sometimes the honey-bird will lead a man to a serpent or wild beast; and, sure enough, Dr. Mearns was once thus led up to a rhinoceros. While camped on the 'Nzoi, the honey-birds were almost a nuisance. They were very common, and were continually accompanying us as we hunted, flying from tree to tree, and never ceasing their harsh chatter. Several times we followed birds, which in every case led us to bee-trees, and then perched quietly by until the gun-bearers and porters got out the honey, which we found excellent eating."

Several other interesting passages about Birds will be found in Mr. Roosevelt's narrative—see p. 130 (the dancing of the Black Whydah-bird), p. 208 (the water-birds of Lake Naivasha), and p. 390 (the abundance of bird-life in Lado).

In the vicinity of Lake No the Shoe-billed Stork (*Balæniceps rex*) was met with, and a nest with "two downy young ones" was discovered. "The nest was placed right on the marsh water: the birds had bent the long blades of marsh grass into an interlacing foundation, and on this had piled grass cut by their beaks."

No one interested in Africa and its wonders should omit to read Mr. Roosevelt's attractive account of his 'Game-trails.'

55. *Rubow on the Common Gull.*

[Dansk Fugleliv Stormmaagen dens liv i billeder Fotograferet efter Naturen af C. Rubow. Copenhagen, 1910. 8vo, 3 pp., 25 illustrations.]

This series of photographs of the Common Gull from various points of view, and particularly those of a breeding-colony, the nests, eggs, and young, makes a charming pamphlet. We hope that the author will turn his attention to the rarer species, of which the haunts are less easy of access, and give us similar pictures of their home-life.

56. *Salvadori and Festa on a new* Thinocorys.

[Nuove specie dei genere *Thinocorys*, descritte da T. Salvadori e E. Festa. Boll. Mus. Zool. Torino, xxxv. Num. 631 (1910).]

Thinocorys pallida, from Ecuador (*Festa*), is described as a new species allied to *T. rumicivorus*, but much paler above.

57. *Schiebel on new Corsican Birds.*

[Neue Vögelformen aus Corsica. Von Dr. G. Schiebel. Orn. Jahrb. Jahrg. xxi. Heft 3 (1910).]

Dr. Schiebel seems determined to make all the Corsican birds new subspecies, and now describes *Scops scops tschusii*, *Prunella collaris tschusii*, *Fringilla cœlebs tyrrhenica*, *Muscicapa striata* (q. *grisola*) *tyrrhenica*, *Troglodytes troglodytes koenigi*, *Cuculus canorus kleinschmidti*, and *Emberiza cirlus nigrostriata* as new subspecies.

58. *Sclater's Record of the Ornithological Literature of* 1909.

[Zoological Record, Vol. xlvi. Aves by W. L. Sclater, M.A. London, Nov. 1910. 130 pp.]

The vacancy in the staff of the 'Zoological Record' caused by the death of Dr. Bowdler Sharpe has been filled by the selection of Mr. W. L. Sclater for that laborious post, and his report on the "Aves" for 1909 is now before us.

It commences, as in preceding reports, by a list of the titles of the books and papers relating to Birds issued in 1909, which were 1721 in number against 1949 in 1908. Then follow the subject-indexes, in which the books and papers are referred to by the name of the author and the number of his paper in the "List of Titles." The most important of these are the "Geographical" and the "Systematic." In the former the worker obtains information concerning the literature of any particular part of the world that he may be interested in, in the latter information concerning the birds of any special group in the system. In the latter index the compiler has wisely, we think, followed the order of Sharpe's 'Hand-list,' in order to conform with previous 'Records.'

It may not be generally known that the Record on "Aves," which is indispensable to all working Ornithologists, can be purchased separately for the moderate price of Six Shillings.

59. *The South African Ornithologists' 'Journal.'*

[The Journal of the South African Ornithologists' Union. Vol. vi. No. 2. Pretoria, Dec. 1910.]

The concluding part of this volume contains a paper on the eggs of certain South African Birds, mostly undescribed or unfigured, by Messrs. J. A. Bucknill and G. H. Grönvold. These eggs are of *Turdus cabanisi*, from Natal; *Poliohierax semitorquatus*, from the Transvaal; *Amydrus morio, Colius indicus, Apalis florisuga*, from Cape Colony; *Cinnyris afer, Tarsiger stellatus*, from Natal; *Eutolmaëtus spilogaster*, from Matabele Land; *Kaupifalco monogrammicus*, from the Sudan; *Rhinopomastus cyanomelas*, from the Transvaal; and *Stephanibyx melanopterus*, from the Transvaal. A second paper treats of the plumages of *Saxicola monticola* Bechst., and the writer, Mr. C. G. Davies, supports Seebohm's views to some extent, while holding that there is only one species involved, instead of two, but that it is dimorphous. Lastly, Mr. P. A. Sheppard writes on some little-known birds from Beira. Many of them are of great interest (and more especially their nests and eggs), as, for instance, *Batis sheppardi, Anthreptes reichenowi*, and *Kaupifalco monogrammicus*, while attention should be directed to the fact that the egg of the last named bird does not correspond with the description given of it in the first paper of this number.

60. *Thienemann on the Migration of the Stork.*

[Der Zug des Weissen Storches, auf Grund der Resultate, die von der Vogelwarte Rossitten mit den Markierungs Versuchen bisher erzielt werden sind. Von Dr. J. Thienemann. Zool. Jahrb., Suppl. xii.]

This is a complete and well-prepared account of the discoveries made by placing aluminium rings on the legs of Storks, and thus obtaining exact information as to the route which they follow in travelling from Northern Germany to South Africa. It has been written by Dr. Thienemann, the Director of the Bird-Observatory at Rossitten, N.E. Prussia, who is one of the best authorities on the subject, and is illustrated by three plates, which shew the road followed by the Storks from the Baltic to the Cape—so far as it has been yet ascertained. The young Storks are "ringed" when half-fledged, and there appears to be little difficulty about the operation. Some 3000 aluminium rings have been distributed in N.E. Prussia for this purpose.

No one interested in the great "migration-question" should fail to make himself acquainted with Dr. Thienemann's paper on this subject.

61. *Tschusi on the Ornithological Literature of Austria-Hungary for* 1909.

[Ornithologische Literatur Œsterreich-Ungarns, 1909. Von Victor R. v. Tschusi zu Schmidhoffen. Verh. k.-k. zool.-bot. Wien, Jahrg. 1910, pp. 432–463.]

This is a complete List of the ornithological publications issued in Austria-Hungary in 1909, and will be useful to those who are working on subjects connected with the Birds of that part of Europe. The author has received assistance from various friends who are acquainted with Hungarian, Croatian, and Czech, in which languages some of the communications are written.

XIV.—*Letters, Extracts, and Notes.*

We have received the following letters addressed to the Editors:—

Sirs,—A few notes on my route during the last nine months and on my plans for next year may be of interest to the readers of 'The Ibis.' In May last, along with my companions, Messrs. Miller and Price, I travelled through Siberia to the Yenisei River, and spent several months in exploring its head-waters in the Syansk and Tannu-ola mountain-ranges.

We found this district, although within the Chinese Empire and on the threshold of Mongolia, to be quite Siberian in character and to possess a Siberian fauna. Forests of larch, spruce, birch, and Scotch fir, interspersed with meadow-lands, and watered by fine rivers, stretch as far south as the Tannu-ola Mountains, and this range (lat. 51°) forms the true "divide" between the Siberian and Mongolian faunas. I made a small collection of birds, which includes examples of the following, among other species:— Ptarmigan, Brown Partridge, Hazel-Grouse, Great Black Woodpecker, Capercaillie, Black-throated Thrush, Golden Oriole, Cross-bill, and various other species. The spring migration was on the whole rather later than it is in England.

The existence of Sable, Beaver, Reindeer, and Moose also shews the affinities that this district possesses to Siberia.

On leaving Arctic waters and entering Mongolia proper I immediately perceived a change in the fauna.

Traversing the district between Lake Ubsa and the Altai Mountains, we found the high ranges very wealthy in bird- and animal-life. The steppe-country was on the whole very lifeless, but the lakes swarmed with birds. The following were noted on the Atchit Nor:—Wild Geese (three species), Mallard, Teal, Wild Swan, Grey Phalarope, Golden Plover (in full summer dress), Black Stork, Gulls, Terns, Black Vulture, Pallas's Sand-Grouse, Kites, Tree-Sparrows, and Horned Larks.

By September we had crossed the Great Altai and entered Dzungaria. Travelling by way of the Upper Black Irtish, Lake Ulungar, and the Sair Mountain, we reached Chuguchak, and thence, by way of the Ala-tau and Sairam Nor, the Ili Valley and Kuldja. During the last part of this journey I had neither time nor opportunity to collect. But I recorded a certain number of birds during this long journey through this the most *bird-less* country that I have ever seen; there seemed to be little else but immense flocks of Pallas's Sand-Grouse and a few Horned Larks.

Here the winter migration and the comparison of the winter conditions of the Ili Valley with those of the Zarafschan much interested me. The difference is remarkable. Although but very little further north, the Ili Valley is frost-bound for three or four months, all the rivers are frozen and the snow lies deep, whilst in the Zarafschan I collected specimens throughout the winter. Wildfowl are here comparatively scarce, but the lower Zarafschan forms an immense winter-resort for Ducks, Geese, Waders, &c.

In January I shall start eastwards again, going, *via* Urumchi and Durfar, to Hami. *En route* I hope to collect on the Bogdo-ola and Hami Mountains, and also on further journeys which I expect to make into the Gobi, east of Hami.

I hope to be in England next autumn. From here I am sending off a small collection to the British Museum and hope it will get through safely.

I am, Sirs,

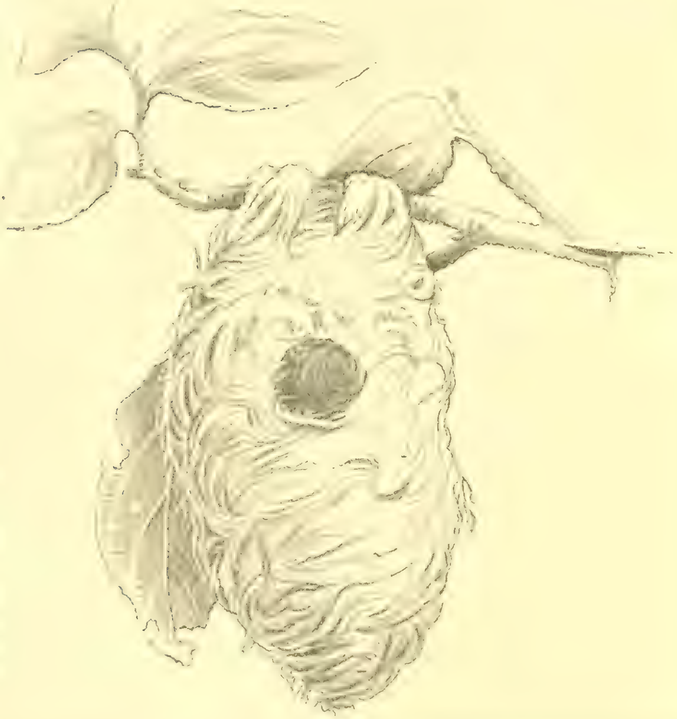
Yours &c.,

Douglas Carruthers.

Kuldja,
Chinese Dzungaria,
Central Asia.
Dec. 27th, 1910.

Sirs,—Whilst up the West River in South China along with Lieut.-Commander R. E. Vaughan, of H.M.S. 'Moorhen,' we took a nest of the lovely little Flowerpecker *Dicæum cruentatum*, at How-lik, on August 19th, 1906, with five

Text-fig. 10.



Nest of *Dicæum cruentatum*.

newly-hatched young. The nest, of which I enclose a sketch (text-fig. 10), is made of fine strips of the inner bark of trees, with a few other fibres, and is bound together with the silky pappus of *Bombax ceiba*, and lined with the same material. The length of the nest is about 4½ inches and its diameter about 2¼, outside measurements.

Another nest of this bird, taken with eggs on July 7th, 1907, was almost entirely made of the *Bombax* seed-silk, emmeshed on the exterior with the inner bark of trees in very long and narrow strips. The nest is hung high up in a large tree at the end of a slender bough, and being so small and well concealed with leaves is very difficult to detect. The eggs are white and not very glossy.

I am, Sirs,
Yours &c.,
J. C. Kershaw, F.Z.S.

Sirs,—May I venture to trespass on your valuable space to call attention to the increase of papers of late years in the 'Ibis' which are little more than catalogues of skins, and to suggest that collectors should make more field-notes on the birds they observe, and that those who work out the collections should pay more attention to states of plumage and any addition to our knowledge there may be as to the status of any species in any locality? I am quite aware that collections are frequently made under very adverse circumstances, but pencils and note-books are not much to carry, while habits, numbers, food, &c., and the state of the sexual organs would not take long to record.

Others points to which I should like to call attention are the desirability of collecting our European summer migrants in their winter-quarters and of recording as much information about them as possible, and to the advisability of collecting specimens in moult.

These subjects appear to be rather neglected and overshadowed by the glamour of discovering new species, which, however interesting it may be, after all is not everything in Ornithology.

I am, Sirs,
Yours &c.,
Claud B. Ticehurst.

Lowestoft,
March 13th, 1911.

Sirs,—You asked me to write you a "birdy" letter from this island. I have just returned from an expedition into the central forests, where I was fortunate enough to discover the headquarters of *Fringilla teydea polatzeki*. I think, therefore, you may care for a short account of this interesting

Finch. I forget if you have been in the south of Gran Canaria, but if so, you will remember that the pine-forests cover a large extent of ground, and on the ride from Juncal to the Cueva de las Ninas the mule-path winds through pines almost all the way. Juncal, which is a very small village, consisting of a few straggling houses, is situated in a deep barranca 3600 ft. above the sea.

Higher up again, at 4000 ft., the Pinar Pajonal commences, and here it is that I found the Finches to be most plentiful, but even in these pines they are very locally distributed. As we rode through these forests on the 5th of February we saw about six or eight pairs of it—a week later none were to be seen there at all; so I imagine they move about in small parties through the forests, in a similar manner to the Tits. This is an extremely silent bird, and the note did not appear to be nearly so loud as that of our English Chaffinch, though, from the original account of the species by Capt. Polatzek, it would appear to be a great deal more pronounced. It is often to be seen on the ground beneath the pines, diligently searching amongst the pine-needles, and when suddenly disturbed flies silently into a tree close at hand, shewing very little fear. Most of the birds seen near Juncal were in pairs, but I met with several single cock birds in the forests near the Cueva de las Ninas: the latter were absolutely silent. The ovaries of two females dissected contained very minute eggs and the testes of the males were small. I imagine that these birds are rather late breeders, and the local shepherds and Guardias, who were intimate with the bird, informed me that they had found the nests in April. I obtained three pairs of these Chaffinches for the British Museum, and I hope now they will be allowed to increase in peace: you may be sure I shall do all I can out here to keep their hiding-place a secret from wandering collectors!

I am, Sirs,
Yours &c.,
David A. Bannerman.

Gran Canaria,
Feb. 6th, 1911.

Birds of the Central Sahara.—In the interesting narrative of his journey from Tripoli to Bornu across the Central Sahara, Mr. Vischer writes at the oasis of Bilma (now occupied by the French):—"Around these delicious pools our boys caught many ducks: these birds seem to come from the south; they flop down exhausted at the edge of the water, and the villagers catch them whenever they feel inclined. The nearest open water to the south is Lake Chad, three hundred and fifty miles away.

"These ducks at Bilma, the many smaller birds which we picked up farther north, and the Quails we saw near Budduma, prove I think sufficiently that the Sahara is constantly crossed by flights of birds migrating from the Central African countries to the north, and a systematic study of the matter would, no doubt, throw fresh light on many interesting facts concerning their habits. Besides the ducks we saw no birds in the oasis except the Common Vulture, the Hawk, and great numbers of the white and black variety of Raven, which is also met with in Nigeria."

So far as we know, this is a district to which no Ornithologist has as yet ever penetrated. It could, however, we suppose, be reached with the help of the French authorities in Algeria.

Introduction of Paradise-birds into the West Indies.—From an article in the last number of the 'Avicultural Magazine' (ser. 3, vol. ii. p. 142) we learn that Sir William Ingram has acquired an island in the West Indies (Little Tobago) for the purpose of acclimatizing Paradise-birds, and thus preserving them from the utter extinction which will certainly befall them unless some steps are taken to guard them from destruction. Out of 56 living examples of *Paradisea apoda*, brought from the Aru Islands by the late Mr. Stalker, 48 were set free on Sir William's uninhabited island, and placed under the care of an "intelligent Swiss sailor," Robert Herold. We trust that this experiment may prove successful, and that the birds may thrive and breed in their new quarters. At the same time we venture to express an opinion that one of the smaller Aru Islands would perhaps have been a more suitable repository for these precious birds, which are, of course, utterly foreign to the Neotropical Avifauna and quite ignorant of the proper food to be eaten by them in the West Indies. We quite agree, however, with the Editor of the 'Avicultural Magazine,' that Sir William Ingram's experiment in attempting to preserve for posterity one of the most beautiful of living creatures is worthy of our highest commendation.

The Expedition of the B. O. U. into Central New Guinea.—Since we last wrote on this subject (above, p. 186) we are glad to say that Mr. Walter Goodfellow, who, as we announced, had been compelled to give up the leadership of the Expedition in consequence of renewed attacks of severe fever, has returned safely to England. He has nearly recovered his health and was able to be present at the Meeting of the B.O.C. on March 15th, where, we need hardly say, he met with a very cordial reception. He has brought back with him the first collection of bird-skins, altogether about 1000 in number. This collection, having been formed at a comparatively low level, could hardly be expected to contain many novelties. But in it are several males and a single female of the magnificent *Xanthomelus ardens*[*], and other specimens that when examined will probably turn out to be new to science.

Under its present commander the Expedition is making good progress up the Iwaka River, which, it is positively stated, draws its water from the snows of Mount Carstensz. A strong and reliable reinforcement of carriers has been made by the accession of forty Dyaks from Borneo, under the command of Mr. Bernard Kloss, Curator of the Kuala Lampor Museum in the Federated Malay States, who has obtained four months' leave in order to join the Expedition.

The Annual General Meeting of the B. O. U.—We are requested to call attention to the approaching Annual General Meeting of the Union, which has been fixed by the Committee for Wednesday, May the 10th, and will be held (by permission) in the Zoological Society's Office, Regent's Park, at 1.30 P.M. The usual dinner after the Meeting will be held at 7 P.M., at Pagani's Restaurant, Great Portland Street, in conjunction with that of the British Ornithologists' Club.

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[*] See above, p. 353.

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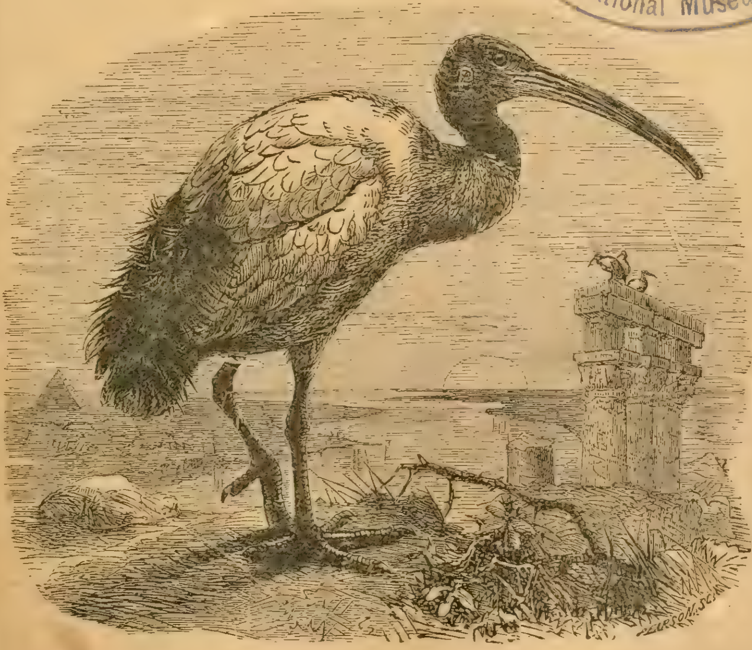

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XV.—*On the Birds collected by Mr. Claude H. B. Grant at various Localities in South Africa.*—Part II. By W. L. Sclater, M.A., F.Z.S., M.B.O.U. *With Field-Notes* by the Collector.

[Continued from above, p. 316.]

The numbers in front of the names of the Birds are those of the 'Check-list of South-African Birds,' published by me in 1905 (Ann. S. Afr. Mus. iii. pp. 303–387), which is founded upon the four volumes of the 'Birds of South Africa' by myself and the late Dr. Stark.

In order to save space the following contractions are used :—

CC. = Cape Colony.
N. = Natal.
Z. = Zululand.
Tv. = Transvaal.
P. = Portuguese East Africa.

294. Turdus litsitsirupa.

Tv. Legogot, Apl. (2).

[Only in the Eastern and North-Eastern Transvaal have I seen this species; in addition to the two secured, a single example was observed in the North-East Transvaal feeding on an open patch of ground on the Shongololo River, about twenty-five miles from the Portuguese border. Both the specimens shot were on different occasions sitting on the top of the same tree in the early morning and indulging in a wild erratic sort of song; they looked for the moment much like Missel-Thrushes.

The soft parts are:—Irides deep brown; bill dark brown, lower mandible yellow; legs and toes whitish horn-coloured.]

295. TURDUS GURNEYI.

Z. Sibudeni, Jan. (5); **Tv.** Zuurbron, Apl. (1); Woodbush Hills, Nov., Dec. (3).

Nest with two young taken at Sibudeni, Jan. 30th.

The nest does not seem to have been described before, and I believe the eggs are not known. The male, female, and two nestlings taken on January 30th are in the collection.

The nestling is fulvous brown above with fulvous-yellow shaft-streaks; the wing-coverts already shew the characteristic white spots and tips; the under parts are pale fulvous yellow, most of the feathers being tipped with a black band, forming a rather irregular black cross-banding.

[I found this supposed rare Thrush quite common in the forests at Sibudeni, Zululand, and in the South-Eastern and North-Eastern Transvaal. It is essentially a bird of the forests and is somewhat shy in habits. It was found breeding in the Nkandhla forest at Sibudeni, and several nests were seen, but only one was occupied and that contained two young. The nest, which was composed entirely of moss, was placed on a large horizontal limb of a tree some twelve to fourteen feet from the ground and was overhanging a native footpath. Both the adults were very bold and excited when the nest was robbed and were easily secured.

The soft parts of the adult are:—Irides brown; bill black; legs and toes whitish horn-coloured.

In the nestling the bill is brown and the gape pale yellow.]

296. TURDUS OLIVACEUS.

CC. Table Mt. slopes, Feb. (2); Knysna, Dec., Jan. (2); **Z.** Sibudeni, Oct., Nov., Jan. (7); **Tv.** Zuurbron, Apl., May (4); Woodbush Hills, Nov. (3).

[" Umse " of Zulus.

I have carefully examined this series and cannot find one true *T. cabanisi*. The amount of grey on the flanks seems very variable.

[This Thrush was commonly noticed in the woods and forests of the Cape Peninsula, the Knysna district, Zululand, and Natal, and the South-Eastern and North-Eastern Transvaal.

It is a thrush of the woods and forests, where it is found solitary or in pairs; and although I have never taken the eggs, I secured many young birds and saw deserted old nests. It has a soft sighing call-note like our European Thrush, but no song. It is a fearless confiding bird, and spends much of its time amongst the under-wood.

The soft parts are:—Irides brown; bill, legs and toes horny yellow; base of upper mandible horn-brown.

In the young the bill is brownish, with the gape yellowish, and the legs and toes livid brown.]

298. TURDUS LIBONIANUS.

P. Coguno, Aug., Sept. (2); Beira, Nov. Dec. (3); Tambarara, July (1).

I cannot distinguish examples of this species from Rustenburg (near the type locality) from those from Nyasaland or from the present series. I am not, therefore, inclined to uphold Neumann's subspecies *T. libonianus tropicalis*, to which, if distinct, Mr. Grant's birds should be referred.

A young bird, labelled Beira, Nov. 25, with the tail full-grown, shews a few fulvous shaft-streaks on the wing-coverts, while the general tone of colour is more olive and less silvery; below, the breast is spotted with black; the bill is black.

[I have only seen this Thrush in the Portuguese country, where, however, it was not common. It frequents both the forests and the more patchy country, is essentially thrush-like in habits and call, and spends much of its time on the ground searching for food. In the Inhambane district I found it feeding on pollen in company with Sunbirds and Bulbuls.

The soft parts of the adult are :—Irides brown ; eyelids, bill, legs and toes pale yellow.

In the young the bill is blackish brown.]

300. Monticola rupestris.

CC. Knysna, Apl. (1) ; Plettenberg Bay, Feb. (1).

[This Rock-Thrush was sparingly seen in the Knysna district of the Cape Colony only ; it frequented the open country, sitting about on the rocks and clods of earth, and chasing insects on the ground much like a Wheatear.

The soft parts are :—Irides hazel ; bill, legs and toes blackish brown.]

301. Monticola explorator.

Tv. Wakkerstroom, Mch., Apl. (5).

[This species was only observed in the South-Eastern Transvaal, and was noticed in pairs on the rock-strewn mountain-sides, usually sitting on some conspicuous boulder ; it was quite tame. In habits it resembles *M. rupestris*.

The soft parts are :—Irides hazel ; bill, legs and toes blackish brown.]

302. Monticola brevipes.

CC. Klipfontein, Apl. (1).

A young bird in the spotted stage.

[The young specimen sent was caught in a mouse-trap baited with cheese. Although a good look-out was kept, no adults or other young were seen during the Namaqualand trip, a fact which was distinctly curious.

The soft parts are :—Irides hazel ; bill, legs and toes blackish brown ; gape pale yellow.]

304. Myrmecocichla formicivora.

Tv. Wakkerstroom, Mch., Apl. (7).

[Since the Central Cape Colony trip I have only seen this species on the highlands around Wakkerstroom, S.E. Transvaal. It frequents open grass-country, usually in pairs, and sits on clods or the top of ant-heaps, whence it makes springs straight up in the air, I presume to catch some passing insect; it also feeds largely upon ants. The call is somewhat Chat-like, and the flight is low and laboured, with rapid beats of the wings.

The soft parts are:—Irides dark brown; bill, legs and toes black-brown.]

305. Myrmecocichla bifasciata.

Tv. Zuurbron, Apl., May (6).

[This striking Chat was only observed at Zuurbron, in the South-Eastern Transvaal, between the middle of April and the first week of May. It frequented the larger boulders at the bases of the kopjes and hills, and in actions and habits resembled the true Wheatears.

The soft parts are:—Irides dark brown; bill, legs and toes black.]

306. Pratincola torquata.

1. Western typical race (*P. torquata typica*):—

CC. Port Nolloth, July, Aug. (10); Durban Rd., Mch., Sept. (4).

2. Eastern race (*P. torquata orientalis*, subsp. n.):—

CC. Plettenberg Bay, Feb. (2); **Z.** Sibudeni, Oct., Nov. (7); Umfolosi Station, June, July, Aug. (15); **Tv.** Zuurbron, Apl., May (5); Wakkerstroom, Mch. (1); Woodbush, June, Nov. (5); Klein Letaba, Aug. (1).

The fine series of this Stonechat collected by Grant enables me to distinguish two quite separable subspecies in South Africa.

A Western race, from Namaqualand and the Cape Town neighbourhood, is distinguishable in the male by the restriction of the rufous patch on the breast, which does not extend to the flanks or more than about half the length of the under parts. The female is even more distinct: it has a white patch on the abdomen distinctly marked out from the surrounding pale fulvous, and the under tail-coverts are pure white: the chin and throat, too, are white with black bases to the feathers, and form a marked contrast to the rufous breast.

In the Eastern race the rufous of the breast in the male extends over the flanks, leaving only a small and not very distinct white patch in the middle of the abdomen. In the female the whole of the under parts are tawny rufous, there is no distinct white patch on the abdomen, and the under tail-coverts are more or less tinged with rufous; the throat, which is white in the other subspecies, is in this form tawny, and though slightly paler than the breast in no way forms a marked contrast to it.

The *Muscicapa torquata* of Linnaeus was founded solely on Brisson's "Gobe-mouche à collier du Cap de Bonne Espérance." A reference to that work shews clearly that the description and figure apply to the Western race found near Cape Town. This is also the case with Levaillant's "Traquet pâtre," on which Strickland founded his *Pratincola pastor*. I am driven therefore to find a new name for the Eastern subspecies, and I would propose to call it *Pratincola torquata orientalis*. As types of the species, I select a pair taken at Umfolosi Station, in Zululand—the male on August 4, and the female on June 30, 1904.

The British Museum contains examples of the typical form from Kugelfontein and Komaggas in Little Namaqualand, and from Cape Town. The new subspecies is much more abundantly represented. The following are its chief localities:—**CC.** Deelfontein, Knysna, Chalumna River, Port Elizabeth, and Notinsila in Pondoland; **N.** Durban, Pinetown, Maritzburg, and Newcastle; **Tv.** Macamac, Rustenburg, and Potchefstroom; Tati and Lake Ngami in Bechuanaland; Chiquaqua in Mashonaland; Nyasaland and Angola.

["Sanquawane" of Zulus.

This Stonechat is resident and was commonly seen in every locality visited from the Cape northwards, but was not met with anywhere in the Portuguese territory. In appearance, habits, and call it exactly resembles *P. rubicola*. It appears to be an early breeder, as fledged young were taken in September, October, and November

The soft parts are:—Irides hazel; bill, legs and toes black.]

307. Saxicola monticola.

CC. Klipfontein, Apl., May, June (7); **Tv.** Wakkerstroom, Apl. (1).

There are seven males and one female of this remarkable Chat in the collection. Of the seven males, two dated May 8 and June 18 are in what I have termed stage 3 in the 'Birds of South Africa,' *i.e.*, black with white shoulders and abdomen; another pair of males, dated April 5 and 29, are in stage 5, in which the crown is grey and the white of the abdomen is not nearly so conspicuous—in fact, it appears to be gradually wearing off; finally, three males, dated Klipfontein, April 17 and 21, and Wakkerstroom, April 11, are in stage 6—grey with white shoulders,—and in one of these there are a few black feathers on the breast, which seem to be disappearing. I fear that these examples do not throw much more light on the plumage-changes of this interesting species.

[This Chat was common in Namaqualand, but wild, and it was not seen again till Wakkerstroom was reached, when a single pair was met with, the male being secured. It was usually observed in pairs, and frequented the rocky sides of the hills and mountains. The call is a clear whistle and the flight is swift. It is somewhat wary and difficult of approach.

The soft parts are:—Irides dark brown; bill, legs and toes black.]

308. Saxicola pileata.

CC. Klipfontein, Apl, May, June, July (13); Durban Rd., Mch. (1); **Tv.** Woodbush, June (6).

The examples from the North-Eastern Transvaal are intermediate between this, the typical form, and *S. p. livingstonii.* The white on the forehead is more restricted, but the black band is of much the same breadth as in specimens from Namaqualand. It seems to me best to refer these birds to *S. pileata.*

[This Wheatear was very common in Namaqualand; but only an occasional individual was seen in the Cape Peninsula, and it was not observed elsewhere, except at Woodbush.

It is essentially a ground-bird, and has many actions like a Wheatear and others similar to a Robin, while I have only occasionally seen it perch on bushes or sticks. It is very active, chasing insects like a Wheatear, and often, when only wounded, will run down holes. I did not observe it breeding.

The soft parts are:—Irides deep brown; bill, legs and toes black.]

313. Saxicola familiaris.

CC. Plettenberg Bay, Mch. (1); **Z.** Jususie Valley, Dec. (2); Sibudeni, Nov. (2); **Tv.** Klein Letaba, Aug. (2); Turfloop, Mch. (2).

The examples from the Transvaal have the black band on the tail-feathers a good deal narrower than those from Cape Colony. In this respect they approach *S. falkensteini*, which ranges from the Zambesi Valley northwards. They have been distinguished by Reichenow as *S. familiaris hellmayri*; but, as they are obviously only intermediate between what can hardly be regarded as more than subspecies, it does not seem worth while to recognize this additional name.

[This little Chat was noted in Namaqualand, the Knysna, Zululand, and the Eastern and North-Eastern Transvaal, but, except in Namaqualand, was not common anywhere. It is a tame and confiding bird, and can often be seen sitting about on heaps of stone, old iron, or wood around habitations, whence it makes short flights and runs to catch some insect; where the country is wilder, it frequents the rocky sides of the hills. It is an active species, and in many ways reminded me of the European Redstart (*Ruticilla phœnicurus*).

The soft parts are:—Irides hazel; bill, legs and toes dark brown.

313 *a*. Saxicola familiaris galtoni.

CC. Klipfontein, Apl. (1).

A single skin of the Familiar Chat from Little Namaqualand seems closer to the Great Namaqualand form than to that from the Cape.

315. POLIOCICHLA SINUATA.

CC. Klipfontein, Apl., May, July (5).

Almost indistinguishable from *Saxicola familiaris,* except by the emargination of the primary.

[Found only in Namaqualand, where it is plentiful. In habits and appearance it resembles *S. familiaris,* and the two can easily be confounded in the veld.

The soft parts are :—Irides hazel ; bill, legs and toes dark brown.]

317. POLIOCICHLA POLLUX.

CC. Klipfontein, Apl., June (3).

[I have only noted this Chat from Namaqualand, where it was not uncommon. It is partial to sitting on the tops of bushes and boulders, from which it flies off to catch its food on the ground ; this consists of insects. After securing and devouring its prey it returns again to its perch to watch. In size and appearance it greatly resembles the adult male of *Saxicola monticola.*

The soft parts are :—Irides brown ; bill, legs and toes black.]

312. POLIOCICHLA LAYARDI.

CC. Port Nolloth, July, Aug. (17) ; Klipfontein, May, June (2).

The Port Nolloth series is a shade paler than the Klipfontein pair, and approaches *Saxicola albicans.* This is a species of singularly restricted distribution. It is known only from Aliwal North, Upington, Deelfontein, and Namaqualand, and appears to be practically confined to the valley of the Orange River.

[Only noted from Namaqualand, where it was particularly common and frequented both the hills and the flats, sitting about on the boulders and tops of bushes, and usually catching its prey on the ground. It is very active, resembling *S. familiaris* in this and many other ways.

The soft parts are :—Irides hazel ; bill, legs and toes dark brown.]

319. THAMNOLÆA ARNOTTI.

Tv. Klein Letaba, July (2).

[The two specimens secured are the only ones I have ever seen of this Chat; they were shot on the rocky slopes of Madzimbanombi Mt. In appearance and flight it resembles *Saxicola monticola*; but I did not hear its call.

The soft parts are:—Irides dark brown; bill, legs and toes black.]

320. COSSYPHA BICOLOR.

CC. Knysna, Feb. (1); **Z.** Sibudeni, Nov., Dec. (4); **Tv.** Woodbush, Nov., Dec. (4).

One of the birds from Woodbush dated Dec. 12 is a fully fledged young bird of the year. The head and back are black, spotted with yellow, the wings and tail much as in the adult, and the under parts dull yellowish, many of the feathers, especially on the breast, being edged with black, and producing a somewhat speckly appearance.

["Ebinda" of Zulus.

This "Robin" was noted from the Knysna, Natal, and Zululand, the South-Eastern, Eastern, and North-Eastern Transvaal, and the Inhambane, Beira, and Gorongoza districts of Portuguese East Africa. It is a woodland bird and is somewhat shy and retiring in habits, although its loud and clear call-note easily betrays its presence; it also has a song of several clear liquid notes. Like the other Robin-Chats it is sometimes trapped in gins set for mice. I have not discovered the nest.

The soft parts are:—Irides hazel; bill black; legs and toes amber-coloured. In the young the bill is brownish and the gape pale yellow.]

321. COSSYPHA NATALENSIS.

P. Coguno, July (1).

[Although I have seen this bird in several localities, notably Natal and Zululand, the North-Eastern Transvaal, and the Beira district of the Portuguese country, owing to its haunting forest, and being very shy and retiring in habit, I have only secured it from the Inhambane district. In habits it greatly resembles *Tarsiger stellatus*.

The soft parts are:—Irides hazel; bill black; legs and toes brown.]

323. Cossypha caffra.

CC. Table Mt. slopes, Jan. Feb. (5); Tokai, Feb. (2); Durban Rd., Mch., Sept. (3); Plettenberg Bay, Mch. (1); **Tv.** Zuurbron Mch., May (2); Wakkerstroom, Apl. (1); Woodbush, May, June (2); Legogot, Apl. (1).

Cossypha caffra namaquensis, subsp. nov.

CC. Klipfontein, June (1).

This form of the Cape Robin differs from the typical form commonly found throughout Southern Cape Colony and Natal in the great extension of the white on the sides of the head; instead of forming a comparatively inconspicuous eyebrow, it makes a broad band on either side of the head from the base of the bill over the eye to above the ear-coverts, where there is a very conspicuous white patch: this at once distinguishes it from the common Cape Town form; and except that the orange-rufous of the throat and chest is of a slightly darker and richer shade, as was noticed by Sharpe when examining the Deelfontein bird ('Ibis,' 1904, p. 322), there does not seem to be any other appreciable difference.

Only a single example was procured by Grant. This, the type of the subspecies, is a female from Klipfontein, Namaqualand, dated June 19, 1903.

I have found two other specimens in the British Museum. One of these, also a female, was obtained previously by Claude Grant at Deelfontein in July; the other, a male, is labelled "Hopetown, Atmore."

Measurements of the type: length 170 mm., wing 89, tail 86, culmen 12, tarsus 27; of the Hopetown male, length 186 mm., wing 87, tail 90, culmen 12, tarsus 27.

The Namaqualand Robin-Chat doubtless replaces the Cape Robin-Chat in the valley of the Orange River and in Northern and North-Western Cape Colony.

["Geelgat" of Cape Colonists.

The "Cape Robin" was noted in Namaqualand (where only the specimen sent was seen), the Cape Peninsula, the Knysna, and the South-Eastern, Eastern, and North-Eastern Transvaal. It was not plentiful in the latter locality, but was extremely so at the Cape.

The Cape Robin frequents undergrowth in woods and forests or bush-filled kloofs, and spends much of its time on the ground searching for insects amongst the débris; in this and other habits it much resembles the European Robin (*Erithacus rubecula*). I have not taken the nest, but it breeds during the summer season and probably has two broods, as young were found in September and February.

The soft parts are:—Irides hazel; bill black; legs and toes dark brown. In the young all the soft parts are paler, and the gape yellow.]

325. Aëdonopsis signata.

Z. Sibudeni, Dec. (2).

["Twa-Twa" of Zulus.

Only in Zululand have I seen this bird, where it was sparingly noticed in the depths of the Nkandhla Forest at Sibudeni. It was usually seen sitting among the upper branches of the undergrowth, uttering at intervals the call-note from which the Zulu name is derived. It was, on the whole, a scarce bird, and nothing was noted of its other habits.

The soft parts are:—Irides of a raw sienna colour; bill dark brown; legs and toes light brown.]

327. Pogonocichla stellata.

Z. Sibudeni, Nov. (1); **Tv.** Woodbush Hills, Nov. (3).

[This species frequents thick forest, and is not easy to procure, owing to its shy and retiring habits, but it is probably quite plentiful in all forest areas, where I have overlooked it. In habits and actions it resembles the European Robin (*Erithacus rubecula*), and the alarm-call is also the same.

The soft parts are:—Irides hazel; bill black; legs and toes pale brown.]

330. Erythropygia zambesiana.

P. Tete, Sept. (1 ♂).

This is the type-locality, where it was first procured by Sir John Kirk.

[This is the only specimen I have seen of this species. It was feeding among the small bushes at the foot of some hills. The red tail was very conspicuous as it flew from one bush to another.

The soft parts are:—Irides hazel; bill blackish, pale yellow at base of lower mandible; legs and toes pale brown.]

331. Erythropygia leucophrys.

Z. Hluhluwe Stream, Aug. (1); **Tv.** Woodbush, May (1); **P.** Coguno, June (1).

[Besides the three localities where specimens were collected, I have observed what was apparently this species on one occasion near Beira. It is by no means common, and altogether I have only seen it on three or four occasions, usually in pairs.

The example shot in Zululand was warbling from the top of a small tree; the male from Inhambane was courting a female and was shewing off, running along the branches with the head held low and the wings drooping, the tail being widely spread and held more or less erect; on coming close to me it flew off at a tangent and back to an upper branch, and repeated the performance.

The soft parts are:—Irides hazel; bill dark brown, pale yellowish white at base of lower mandible; legs and toes pale brown.]

334. Erythropygia coryphæus.

CC. Klipfontein, Apl., June (1); Port Nolloth, July (2).

[I have only observed this species in Namaqualand, where it was fairly common and frequented the patches of rough scrub in the kloofs and along the dry water-courses. It is an active little bird, and was only seen singly; it feeds largely on insects. It was apparently breeding during my visit.

The soft parts are:—Irides hazel; bill, legs and toes blackish.]

335. Lioptilus nigricapillus.

Tv. Zuurbron, May (3); Woodbush Hills, Nov. (4).

[The South-Eastern and North-Eastern Transvaal are the only two localities where I have seen examples of this species. It haunts the woodlands and is very shy and retiring, and consequently difficult to secure. It has a sharp call-note, and in appearance and movement in a wild state much resembles the Blackcap (*Sylvia atricapilla*), but owing to its frequenting the thickest and densest part of the brush, little could be learnt regarding it.

The soft parts are:—Irides reddish brown; bill, base pale coral, apical portion brownish white; legs and toes pale brown.]

336. Melænornis ater.

Tv. Legogot, May (8); **P.** Tete, Sept. (1).

[I have noted the Black Flycatcher from several localities on the eastern side of South Africa; it is especially plentiful in the Barberton district of the Transvaal.

I must say that I at first mistook it for the male of *Campothera nigra* or *Dicrurus ludwigi*. These three species can easily be confounded, until the calls and habits have been carefully noted.

It frequents well-timbered country, especially where the bush is patchy, and is usually observed sitting on dead branches, from which it darts out on insects like a true Flycatcher. The call is low and not often heard, and the flight much resembles that of *Dicrurus ludwigi*.

The soft parts are:—Irides dark brown; bill, legs and toes black.]

337. Bradyornis infuscatus.

CC. Klipfontein, Apl., June (3); Port Nolloth, July (6).

[Namaqualand is the only locality where I have met with this species. It is commonly seen perched on the tops of the bushes, but is not always easy of approach. In habits and appearance it much resembles the Chats, with which it was formerly associated.

The soft parts are:—Irides dark hazel; bill dark brown; legs and toes black.]

338 *a.* BRADYORNIS GRISEUS.

Tv. Klein Letaba, July, Sept. (2); Legogot, Apl. (8); **P.** Coguno, June, July, Aug. (10); Masambeti, Oct. (1); Beira, Jan. (1).

These birds match very well a bird in the British Museum from Mapicuti in Mozambique, and one from the Ivuna River in Zululand, identified by Sharpe ('Ibis,' 1900, p. 112) with this species. It was originally described by Reichenow from the interior of German East Africa, and there are a large number of examples from Nyasaland in the collection. It comes near *B. murinus*, but is smaller (wing 82–86 against 100–104 mm.). I find the dark streaks of the head common to both species and very variable in their development.

[I have noted this Flycatcher in the Eastern and North-Eastern Transvaal and the Inhambane, Beira, and Gorongoza districts of Portuguese East Africa. It could not be said to be plentiful in the Transvaal, but was more so in the Portuguese country, being particularly common around the Coguno Camp.

This Flycatcher usually frequents clearings and gardens near human habitations, where it sits on the lower branches of trees and shrubs, from which it darts out on its prey. I have also seen it catch insects on the ground, sometimes devouring them there, but more often carrying them back to its perch. It is a silent and fearless little bird, and allows one to pass within a few feet without taking flight.

The soft parts are:—Irides hazel; bill blackish horn-coloured, pale at the base of the lower mandible; legs and toes almost black.]

328. BRADYORNIS SILENS.

Tarsiger silens Stark & Sclater, Birds S. Afr. ii. p. 219.

CC. Durban Rd., Mch., Sept. (4); **Z.** Umfolosi Station, July (2); **Tv.** Woodbush, Jan., June (3).

One nest with three eggs taken at Durban Road, Sept. 19.

A nestling with the tail only half-grown is in rather an interesting stage, which I have not seen before. It is blackish brown above, thickly spotted with pale fulvous ; the secondaries shew a little white edging, and the tail is white-tipped. Below it is white, stippled with black.

[I have seen this species in the Cape Peninsula (where it is plentiful), in Zululand, and in the North-Eastern Transvaal ; from all these localities specimens were secured. I have also noted it at Pretoria, where I have observed it in the grounds of the Zoological Garden.

This bird has more the habits of a Shrike than those of a Flycatcher, and it is very fond of sitting on the top of some bush or small tree after the manner of *Lanius collaris*, for which at a short distance it can easily be mistaken ; in fact, many colonists will tell you that it is one and the same bird, and call it by the local name of the Shrike.

It breeds in the summer season, and probably has two broods, as I have taken the eggs in the Cape Peninsula in September and shot young birds in January in the North-Eastern Transvaal, unless it breeds later in the latter locality, which is just possible.

I took the nest and three eggs on the 19th of September at the Cape ; this was placed about ten feet from the ground in the fork of a small bush forming part of a hedge bordering a by-road. The nest was cup-shaped and composed of twigs of heather and wild sage, lined with chicken-feathers and downy seeds. The old birds were quite jealous, and were easily procured. It has a loud call and a sort of song.

The soft parts are :—Irides brown ; bill, legs and toes black. In the young the bill and legs are darkish brown, and the gape is yellow.

In an immature male in second plumage the bill and legs and toes are not of so deep a black as in the adult.]

340. Muscicapa grisola.

P. Beira, Nov. 29, Dec. 31, Feb. 7 (3).

[I have only noted the European Spotted Flycatcher in the Beira district, where it was quite numerous during the summer. Its habits are too well-known to need repetition.]

341. MUSCICAPA CÆRULESCENS.

N. Illovo, Nov. (2) ; **P.** Coguno, Aug. (1) ; Masambeti, Nov. (1) ; Tambarara, Mch. (1).

[The Blue-grey Flycatcher was noted in Natal, where a single pair was seen, and in the Inhambane, Beira, and Gorongoza districts of Portuguese East Africa. It is distinctly uncommon everywhere, and is a woodland-haunting species. All that were seen have been sitting on the trunks of fallen trees and stumps and were tame and confiding. In attitude and flight it is a true Flycatcher, and the call is like the "zee-zee" of *Muscicapa grisola*.

The soft parts are:—Irides hazel; bill, upper mandible black, lower mandible, legs and toes slate-coloured.]

342. ALSEONAX ADUSTA.

CC. Knysna, Dec. (4) ; **Z.** Sibudeni, Oct., Jan. (4) ; Umfolosi Station, July (1) ; Ngoye Hills, Oct. (1) ; **Tv.** Zuurbron, Apl. (1) ; Woodbush, Nov., Dec. (4) ; **P.** Cuguno, Aug. (1).

Two young birds are in the series; one, a nestling with an undeveloped tail, is marked "Knysna, Dec. 26," and the other from Sibudeni, dated Jan. 18, has a nearly fully developed tail. Both are profusely spotted on the head and back with pale rufous, and have the secondaries edged with the same colour. Below there is a little black stippling on the white.

["Mbusi" of Zulus.

This little Flycatcher is common in the Knysna, Natal, Zululand, South-Eastern and North-Eastern Transvaal, and the Inhambane district of Portuguese East Africa. It was also noted sparingly in the Beira and Gorongoza districts, but was not seen near Tete. It is a woodland species, although occasionally frequenting more sparsely timbered country, as at the Umfolosi in Zululand. Usually observed in pairs, it is a quiet and retiring bird. In habits and flight it bears a strong resemblance to *Muscicapa grisola*, but its smaller size instantly distinguishes it.

The soft parts are:—Irides hazel; bill, legs and toes almost black.]

345. CHLOROPETA NATALENSIS.

Z. Hluhluwe Stream, Aug. (1); **Tv.** Woodbush, Nov., Dec. (3).

[Eastern Zululand and the North-Eastern Transvaal are the only localities in which I have seen this species. I have found it only in the long grass and reeds bordering the streams, where it sidles up the stems like a Reed-Warbler and drops back again on taking alarm, while I have never seen it fly. The alarm-note is rather harsh and Sedge-Warbler-like; in fact, in general habit and the situations it frequents it resembles a Sedge-Warbler rather than a Flycatcher.

The soft parts are:—Irides hazel; bill, upper mandible dusky brown, lower pale yellow; legs and toes brownish black.]

346. SMITHORNIS CAPENSIS.

P. Coguno, Aug. (1); Beira, Feb. (1); Tambarara, July (3).

[The Inhambane, Beira, and Gorongoza districts of Portuguese East Africa are the only localities where I have seen this quaint Flycatcher. In both the former localities it was scarce, but in the latter many individuals were seen. I have usually noticed it sitting quietly on the low boughs of the smaller trees in the depth of the forests, whence it darts out on passing insects and back again to its perch. It is a confiding and fearless bird, and will allow itself to be passed quite close without shewing any fear. It has a loud cry of "karroo," somewhat drawn out, and another not unlike the alarm-note of a squirrel.

The soft parts are:—

Adult. Irides brown; bill, upper mandible black, lower fleshy; legs and toes yellowish.

In a young male:—Irides of a raw sienna colour; bill, upper mandible blackish brown, lower fleshy; legs and toes greenish.]

347. BIAS MUSICUS.

P. Masambeti, Oct. (1).

[Twice only have I seen this Flycatcher, on the first occasion the specimen was shot, and some three days later I saw another male flying over the tops of some trees, but out of shot. The male secured was sitting on a tall tree and was warbling quietly and sweetly to itself, occasionally darting out to catch some passing insect and returning each time to the same perch; after watching it for some time I shot it. Whether the female was somewhere close by I cannot say; anyhow, nothing could be seen of her and the shot did not make her reveal herself.

The soft parts are:—Irides yellow; legs and toes pale lemon-chrome.]

348. PLATYSTIRA PELTATA.

P. Beira, Dec. (1).

[Only in the Beira district of Portuguese East Africa have I seen this bird, and there I found it in one locality, in a stretch of trees and bushes bordering an intermittent river. Even there it was scarce, and only some four or five birds were observed; two were shot, but one was so damaged that it was useless for preservation. It is fearless and active in its habits, searching every leaf and branch and uttering every few seconds a sharp "zee" call-note.

The soft parts of the female secured were:—wattle bright orange; bill black; legs and toes slate-coloured. Irides shot away.]

349. BATIS CAPENSIS.

CC. Table Mt. slopes, Jan., Feb. (6); Knysna, Jan., Feb. (6); Plettenberg Bay, Mch. (1); **N.** Illovo, Nov. (2); **Z.** Sibudeni, Oct., Nov., Jan. (7); **Tv.** Zuurbron, Apl., May (8); Woodbush Hills, Dec. (3).

["Gwisisiba" of Zulus.

A common bird of the woods and forests of the Cape Peninsula, the Knysna district, Natal, Zululand, and the South-Eastern and North-Eastern Transvaal, but not met with in the extensive woods and forests of the Portuguese country. It was generally seen in pairs or family-parties, and frequented the thicker undergrowth, but seldom the larger trees. It is a true Flycatcher in habits and calls.

The soft parts are:—

♂. Irides bright yellow or lemon-yellow; bill black; legs and toes very dark slate.

♀. Irides pale yellow; bill black; legs and toes slaty. In a young female the irides are yellowish grey.]

349 *a*. BATIS FRATRUM.

Shelley, Ibis, 1900, p. 522.

P. Masambeti, Nov. (1).

The single example is marked a male, and was shot on Nov. 12. It agrees in every respect with the type of the species procured by the Woodward brothers at St. Lucia Bay in Zululand. That specimen was stated to be a male by the Woodwards, though not so marked on the ticket, but was surmised by Shelley, who described it, to be a female, as it had no black breast-band. The present example goes to shew that this species differs from the others of the genus in that respect, and it also extends the range considerably northwards. So far as I am aware, it has not, till now, been taken since its first discovery in Zululand.

[The specimen secured is the only one I have ever seen of this species. Its call, which is different from that of other members of the genus, first arrested my attention. It was shot in a belt of wood containing thick undergrowth; the female was not seen and was probably breeding at that time of year, but careful search failed to discover her. Its habits and actions appear to resemble the other Flycatchers of this genus.

The soft parts are:—Irides yellow; bill, legs and toes black.]

350. BATIS MOLITOR.

Z. Umfolosi Station, Aug. (1); Jususie Valley, Dec. (1); **Tv.** Klein Letaba, July, Aug. (2); Woodbush, May, June (4).

[♂, "Mbunsasane"; ♀, "Gwisisiba" of Zulus.

I have observed this bird only in the localities where specimens were collected. In the Portuguese country its place is taken by the following form.

This bird does not inhabit forest, but is commonly found in bush-veld country, where it is met with singly and in pairs, pottering about the trees and bushes searching for insects. I have seen it catching insects on the wing, but it more often captures them from leaves and bark, occasionally on the ground. The flight is slow and jerky, and usually only from bush to bush; the call is a low whistle, the alarm-note being harsh. I have not succeeded in finding the nest.

The soft parts are:—Irides bright yellow; bill, legs and toes black.]

BATIS PUELLA SOROR.

Reichenow, Vög. Afr. ii. p. 485; C. Grant, Bull. B. O. C. xxi. p. 93.

P. Coguno, July (5); Masambeti, Nov. (1); Beira, Nov., Dec., Feb. (3); Tambarara, Apl., July (3).

This species, first taken in South Africa by Claude Grant, differs from *B. molitor* in its smaller size (the wing averaging 53 against 63 mm.) and in the greater extension and development of the white eyebrow. In the female the chestnut of the throat and breast-band is of a much lighter shade. It replaces *B. molitor* in Portuguese East Africa.

[This form was found common in the Inhambane, Beira, and Gorongoza districts, but was not noticed near Tete. In habits it resembles the true *B. molitor*. The soft parts are also similar.]

351. BATIS PRIRIT.

CC. Klipfontein, Apl., June (3).

The male Pririt Flycatcher only differs from that of *B. molitor* in its slightly smaller dimensions. The outer tail-feather in both species is white along the outer web, as well as at the tip. The description given in Sclater and Stark (vol. ii. p. 257) is erroneous in this respect.

[This little Flycatcher was only found in Namaqualand, where it is decidedly scarce; it frequents the bushes in the numerous kloofs among the mountains. It was in pairs, and in habits, call and actions is similar to *B. molitor*.

The soft parts are:—Irides greenish yellow; bill, legs and toes black.]

353. TROCHOCERCUS CYANOMELAS.

CC. Knysna, June (1); **N.** Illovo, Nov. (1); **Z.** Sibudeni, Nov., Dec. (3).

[I have not noticed this species elsewhere than in the Knysna district of the Cape Colony, Natal and Zululand. It is a forest-haunting bird, and apparently has much the habits of the following species.

The soft parts are:—Irides brown; bill, legs and toes blue-slate-coloured.]

354. TCHITREA PERSPICILLATA.

CC. Plettenberg Bay, Feb. (1); **Z.** Umfolosi Station, Sept. (1); Sibudeni, Nov. (2); Ngoye Hills, Sept., Oct. (2).

354 *a*. TCHITREA PLUMBEICEPS.

Reichenow, Vög. Afr. ii. p. 510.

Tv. Woodbush, Jan. (3); **P.** Coguno, June (2); Beira, Feb. (1); Tambarara, Apl. (1).

The birds from the Zoutpansberg district of the Transvaal are undoubtedly identical with those from Portuguese East Africa, which should be referred to this species (*cf.* Sclater, Annals S. Afr. Mus. iii. 1905, p. 385).

Two nestlings, dated January 12, from Woodbush, are interesting, since there is no trace of the spotted condition supposed to be characteristic of the family Muscicapidae. The beak, wings, and tail, so far as grown, are chestnut, as in the adult. The head is also chestnut, but shews the lead-colour gradually appearing; below the birds are of a dirty grey.

["Iufi" of Zulus.

The Paradise Flycatcher was noted commonly in the Knysna district of the Cape Colony, Natal, Zululand, the Eastern and North-Eastern Transvaal, and the Inhambane, Beira, and Gorongoza districts of Portuguese East Africa. It is a woodland bird, and frequents well-timbered country, being especially partial to shady rivers and streams, where it can be seen flitting among the trees, and the males look particularly graceful. It feeds on insects, which it catches on the wing from a fixed perch. The flight is slow and undulating, and the call is somewhat harsh but clear. I have not succeeded in finding the nest, although I have taken young birds just out of it.

The soft parts are:—Adult ♂. Irides brown; wattle round eye and bill cobalt-blue; legs and toes slate-coloured. The female has no wattle and the bill is slate-blue. The young male is like the female, but the bill is dark horn-coloured, lighter at the base.

355. Dicrurus afer.

CC. Plettenberg Bay, Mch. (4); **Z.** Sibudeni, Jan. (3); **Tv.** Klein Letaba, July, Aug., Sept. (7); Legogot, Apl., May (2): **P.** Coguno, July (2): Masambeti, Nov. (1); Beira, Dec. (1); Tambarara, Apl., May, June (3); Tete, Sept. (3).

Birds from Tete average a good deal smaller than those from Cape Colony, viz.:—

	Wing.	Tail.
Plettenberg Bay, ♂	138 mm.	124 mm.
,, ,, ♂ juv. ...	125	113
,, ,, ♀	130	117
Tete, ♂	126	112
,, ♀	116	106

["Manengwani" of the Machangaan.

This species was noted in the Knysna district, Natal, Zululand, the Eastern and North-Eastern Transvaal, and the Inhambane, Beira, Gorongoza, and Tete districts of Portuguese East Africa. It frequents well-wooded country, usually in pairs, and seems partial to the outskirts of the woods and forests; it regularly takes up its station on the branches of a bare or dead tree, from which it darts out on passing insects. On grass being fired it comes in numbers to catch the insects that are driven out, and will dash repeatedly right into the burning herbage with absolute fearlessness. The cry is loud and harsh, and the flight is somewhat swift.

The soft parts are:—♂ *ad.* Irides red; bill, legs and toes black. ♂ *juv.* Irides brown. ♀ *ad.* Irides rich brown.]

356. Dicrurus ludwigi.

N. Illovo, Nov. (1); **Z.** Ngoye Hills, Oct. (2); **P.** Masambeti, Oct. (1).

[Only in the three localities where specimens were taken have I seen this Drongo. It frequents wooded and forested localities, and seems partial to the interior of the bush, seldom being seen on the outskirts, and, although by no means wild, is not easy to see. In habits and flight it resembles *D. afer*, but the call is clearer and much more melodious.

The soft parts are:—Irides red; bill, legs and toes black.]

357. Campophaga nigra.

Z. Ngoye Hills, Sept., Oct. (2); **Tv.** Legogot, Apl., May (3).

[Zululand and the Eastern Transvaal are the only localities where I have noted this species. I found it frequenting strips of wood and deep high hedges bordering gardens and enclosed lands and rough overgrown disused paths. It is a very silent and inconspicuous bird, and spends much of its time in hunting over the bushes for insects, or even catching them on the ground. The only call I have heard it utter has been a Flycatcher-like "zee."

The soft parts are:—♂. Irides brown; bill black, gape protruding and yellow; legs and toes black. ♀. Bill dark brown; rest of colouring like the male, except the gape not so fleshy. *Juv.* ♂ like ♀.]

359. Graucalus pectoralis.

Tv. Klein Letaba, Aug., Sept. (2); **P.** Coguno, Aug., Sept. (2); Tambarara, May (1).

[This species frequents ordinary "bush-veld" country and never occurs in the forests. It is a conspicuous bird and is seen both singly and in pairs, but is nowhere plentiful; it is, however, wary and shy, and cannot always be obtained. It haunts both the low bushes and the large trees, and catches insects from the branches on the wing, darting out after the manner of a Drongo, while occasionally it devours them on the ground. I have not succeeded in finding it nesting nor have I heard its call.

The soft parts are:—Irides brown; bill, legs and toes black.]

360. GRAUCALUS CÆSIUS.

CC. Knysna, Dec., Jan. (2); **Z.** Sibudeni, Jan. (1); Ngoye Hills, Oct. (2); **Tv.** Woodbush Hills, Nov. (4).

I am not aware that the Grey Cuckoo-Shrike has been previously taken north of Zululand.

[This species was noticed in the forests of the Knysna, Zululand, and the North-Eastern Transvaal. It is strictly a forest-haunting bird, and usually frequents the tops of the trees, and is somewhat active in habits, catching insects on the wing like a Drongo. It has a harsh cry and the flight is very Cuckoo-like. I have only observed it singly or in pairs. I could learn nothing regarding its nesting-habits.

The soft parts are:—Irides brown; bill, legs and toes black.]

363. COTILE PALUDICOLA.

Z. Umfolosi Station, June, July (3).

[I can find no data among my notes to the effect that I have seen this Martin elsewhere than at the locality from which specimens were obtained. In flight and appearance on the wing it greatly resembles *C. riparia*.

The soft parts are:—Irides hazel; bill almost black; legs and toes horn-brown.]

364. COTILE CINCTA.

Tv. Wakkerstroom, Mch. 21, Apl. 7 (6).

[In two localities only have I seen this Martin, on the high open country above the Nkandhla Forest in Zululand in January 1904, and again in the Wakkerstroom district in April of the same year, where numbers were hawking over the open country. In both localities it was apparently passing through on migration.

The soft parts are:—Irides brown; bill, legs and toes black.]

366. Ptyonoprogne fuligula anderssoni.

CC. Klipfontein, May, June, July (6); Anemous, May (2).

These Rock-Martins are paler than those from other parts of Cape Colony, and must be referred to *P. f. anderssoni* Sharpe & Wyatt, the type of which is a female taken at Dariep, in Damaraland, on Oct. 27, 1860, by Andersson.

[Since the Central Cape Colony trip I have not seen the species elsewhere than in Namaqualand, where specimens were collected. It appears to be a resident, and is generally observed hawking along the sides of the mountains. Many nesting-places were observed, but it being the winter season no birds were breeding.

The soft parts are:—Irides brown; bill almost black; legs and toes dark brown.]

367. Hirundo rustica.

CC. Knysna, Apl. 3, 4, & 8 (3); **N.** Illovo, Nov. 14 & 20 (4); **Z.** Sibudeni, Dec. 20 (1); Jususie, Jan. 31 (1); **Tv.** Pietersburg, Feb. 24 & 28 (3); Turfloop, Mch. 15 (2); Woodbush, Nov. 15, Jan. 9, Feb. 2 (3); **P.** Masambeti, Oct. 31 (3); Beira, Jan. 6 (4).

An interesting series, among which are many young birds shewing the progress of the February moult. This is specially the case with the Pietersburg examples, where the steely-blue feathers are replacing the dull brown ones on the crown and the new rich rufous throat-feathers are taking the place of the old ones, which are faded almost to white.

[The European Swallow has been noted commonly from every locality visited in the summer season. I have not seen it before the beginning of October, and have noted it up to nearly the middle of April. My earliest record was on the 7th Oct., 1906, at Beira.

In March 1903 vast numbers were congregated in and around Cape Town, preparing for the northward migration, but at the Knysna in April 1905 numbers were seen still hawking along the hill-sides.]

369. HIRUNDO ALBIGULARIS.

Tv. Wakkerstroom, Mch. 2 and 4 (2); Pietersburg, Feb. 23 (1).

[This species is also migratory, arriving and departing about the same time as the European Swallow. Besides the localities at which specimens were secured, I have noted it in Zululand (Sept. 1904), and on the Zambesi at Tete (Sept. 1907), while a single pair were seen near Beira in Oct. 1906, where they intended to nest on the supports of a railway water-tank, but were disturbed by natives and left the locality. The flight is swift and somewhat straighter than that of other Swallows, and is usually close over the surface of the ground.

The soft parts are:—Irides hazel; bill, legs and toes black.]

371. HIRUNDO ATROCÆRULEA.

Z. Sibudeni, Oct. 26, Nov. 11, 25 (4); Jususie Valley, Dec. 2 (1); **Tv.** Woodbush Hills, Nov. 3, 8 (4).

This is one of the rarest of Swallows in collections, and the present series is not only a valuable addition to the British Museum, but considerably extends the known range of the bird.

There were formerly four examples only of this bird in the British Museum, all from Natal, so that the known range is now extended north to Zululand and the North-Eastern Transvaal.

Four of the "Grant" examples are marked as females, and differ noticeably from the others, which are all marked males, in their much duller and less metallic coloration, especially on the lower surface, as well as in the absence of elongation of the outer tail-feathers. These average 115 mm. in the males, while in the females they average 70. I therefore suspect that the sexes differ, contrary to the general rule in the family. It is, of course, possible that the birds marked female may all be juvenile, but it does not seem very likely.

Of the four examples already in the British Museum Collection, only one, Wahlberg's cotype, is sexed. This is a male, and, like the other three, has the outer tail-feather elongated.

Dr. Sharpe has described (Bull. B. O. C. xvi. 1906) a Blue Swallow from the Mabira Forest, Chagwe, Uganda, as *H. christyi*. I cannot see any difference between this supposed species and *H. atrocærulea*, and should be certainly inclined to consider them identical. There are two examples of *H. christyi*, both males and both taken in the Mabira Forest, on Aug. 7 and Sept. 11 respectively. I should infer, therefore, that this bird winters in Uganda and comes south in October to breed in the Eastern Transvaal and Natal. The only two dated examples in the British Museum are Wahlberg's, taken at Umvoti, Natal, Jan. 9, 1843, and Seebohm's, taken at Lidgetton, Natal, March 29; these both confirm my supposition.

["Nkonjane" of Zulus. The is the Zulu name for all Swallows.

This beautiful little Swallow was noted only from Western Zululand and the North-Eastern Transvaal. I have no data to shew whether or not it is resident in Zululand, as it is stated to be in Natal, but certainly in the North-Eastern Transvaal it is migratory, as it did not appear till the summer season had set in. Its flight is graceful and usually close to the ground, the birds choosing some sheltered spot under the lee of a wood or a road-cutting. The flight is seldom long sustained, and they will perch both on posts and wire-fencing or outstanding twigs of the trees.

The male, which is easily distinguished on the wing by its brighter colouring and the long filaments to the outer tail-feathers, has a sweet warble or "song," which is uttered only on the wing.

I was told by the natives in Zululand that this species breeds in holes in the ground, after the manner of *H. griseopyga*, and I saw females in the North-Eastern Transvaal enter and leave holes in the hill-sides, but I did not succeed in finding any actual nests.

The soft parts are :—Irides dark brown; bill, legs and toes black.]

372. Hirundo smithi.

P. Tete, Aug. 25, Sept. 1, 16 (4).

[I first saw this Swallow near Beira in January, 1907, when I noted a single individual sitting on the telegraph-wire among numbers of *H. rustica*. On another occasion I saw a pair in that locality, but no more were observed until I reached Tete in August, where the birds could be seen hawking up and down the river near my camp on the Mazoe, congregating in flocks towards evening and roosting in the reeds. These flocks consisted wholly of young birds, and I only saw one pair of adults, the male of which I shot. I presumed that the young birds were on migration, but whether going north or south I could not, of course, ascertain. The flight and twitter of this Swallow are similar to those of *H. rustica*.

The soft parts of the adult are:—Irides dark hazel; bill, legs and toes black. In the young the gape is yellowish.]

373. Hirundo griseopyga.

Z. Umfolosi Station, July (3); Umzinele River, Aug. 15 (2 juv. taken from nest).

The nestlings are fully feathered, they have the crown rather darker and more uniform than in the adult; the rump is slightly tinged with rufous, as also are the under parts.

[I have observed this Swallow only in South-East Zululand, where it was by no means uncommon. Its flight and appearance much resemble those of *Chelidon urbica*, for which it might easily be mistaken. It usually hawks close to the ground and in more or less sheltered situations, and it has a regular Swallow twitter. I believe I can now record something of its nesting-habits for the first time. It apparently breeds early, as a fully-fledged young specimen was shot in July, and two others nearly ready to fly were taken from the nest in August.

It was long before I could find out where this bird bred, and nothing could be learnt from the natives; but one day in August 1904, having halted the waggon on the flats just above the Umzinele River in Zululand, when proceeding towards False Bay in search of wild hogs, my attention was attracted by one of several of these Swallows suddenly disappearing into the ground. On going to examine the place I discovered a small hole of about six inches diameter, and on digging down I found the nest, containing two young, about a foot below the surface. The nest was composed of mud and lined with feathers and completely blocked the hole from below.

The soft parts are:—Irides hazel; bill black; legs and toes horn-brown. In the young the gape is yellow.]

374. Hirundo cucullata.

CC. Durban Rd., Sept. 24 (2); Knysna, Dec. 23 (1); Plettenberg Bay, Feb. 23, 27 (5); **Z.** Jususie Valley, Dec. 1 (1); **Tv.** Wakkerstroom, Mch. 2, 21 (2); Woodbush Hills, Nov. 15, Mch. 14 (2); Pietersburg, Feb. 23, Mch. 11 (3).

[Only during the summer season have I seen this Swallow. It usually arrives in September and departs again by April. I have noted it in the Cape Colony, Natal, Zululand, and the South-Eastern and North-Eastern Transvaal. In Zululand and the North-Eastern Transvaal it is usually confined to the high veld, its place being taken in the low veld by the following species. Its breeding and other habits are too well known to need repetition.

The soft parts are:—Irides brown; bill black; legs and toes dark brown.]

375. Hirundo puella.

Z. Jususie Valley, Dec. 1, 10 (5); Ngoye Hills, Oct. 15 (1); **Tv.** Klein Letaba, Sept. 22, 25 (2); **P.** Tete, Aug. 20 (1).

Three eggs from Jususie Valley were taken on Dec. 9th.

Probably this species is only a migrant in South Africa, but it is stated by Alexander to be resident on the Zambesi, and this seems to be confirmed by Mr. Grant's example taken at Tete in August.

[This species arrives and departs in South Africa in the same months as does *H. cucullata*. I have noted it in the Zulu coast country and the low-lying Jususie River Valley in Western Zululand, the low veld of the Northern Transvaal, and the Beira and Tete districts of Portuguese East Africa. In the latter locality only three or four examples were seen, and were probably early arrivals from the north. It breeds after the manner of *H. cucullata*, forming a hanging mud nest with a long funnel. It was breeding in the Jususie Valley, and I found nests on the roofs of most of the old gold-drivings, which abound on the hill-sides. I, however, only succeeded in obtaining a single clutch of eggs, as young native boys plunder the nests and take the young, which they consider great delicacies, placing them alive and whole on a fire and eating them when partially cooked.

In general habits and cry it is a smaller replica of *H. cucullata*.

The soft parts are:—Irides hazel; bill black; legs and toes very dark brown.]

376. Hirundo semirufa.

Tv. Klein Letaba, Sept. 30 (1).

Doubtless only a summer migrant to South Africa. There are examples in the British Museum taken by Ayres at Potchefstroom on Aug. 22, Sept. 23, Dec. 29, and Mch. 17. These are the earliest and latest dates for South Africa.

[I have not noted the species elsewhere than in the North-Eastern Transvaal, where the specimen shot was seen in the low veld, but in October of the same year I saw three sitting on a wire fence on the outskirts of the town of Pietersburg.

The soft parts are:—Irides hazel; bill, legs and toes practically black.]

377. Hirundo monteiri.

P. Beira, Nov. 24, 30 (3); Tete, Aug. 27, Sept. 8 (3).

[Monteiro's Swallow was only found in the Beira and Tete districts of Portuguese East Africa, and is evidently migratory, as it was observed in the former district during the summer of 1906–7 and entirely disappeared till the following August, when it was noticed sparingly around Tete. I have usually observed the birds in threes or fours, and they appear to be always on the move, seldom remaining long in any one locality; I have not noted any signs of breeding. It is decidedly scarce everywhere and frequents timbered country, where it is very partial to sitting on the topmost boughs of tall trees. As a rule, it hawks high overhead out of shot, and roosts at night in tall thick trees. In its flight and its call, which is distinctly louder than that of other Swallows, it resembles *H. semirufa*, but when sitting its pale throat can be plainly discerned.

The soft parts are :—Irides hazel ; bill black ; legs and toes dark horn-brown.]

379. PSALIDOPROCNE HOLOMELÆNA.

Z. Sibudeni, Oct. (1); **Tv.** Woodbush, Dec. (1).

[Although stated to be resident, I cannot help thinking that this Swallow must be migratory, at least in certain parts of South Africa, as I have seen it only during the summer season. I have noted it from the Knysna (summer 1904–5), Zululand (summer 1903–4), and the North-Eastern Transvaal (summer 1905–6). Usually in parties of from three to five or six, it frequents the outskirts of woods and forests or roads and clearings in the interior, where it hawks backwards and forwards about the level of the tops of the trees, generally towards evening. It is therefore somewhat difficult to shoot. Although usually silent, I have heard its call, which is a sharp twitter.

The soft parts are :—Irides dark brown ; bill black ; legs and toes dark brown.]

380. PSALIDOPROCNE ORIENTALIS.

P. Masambeti, Oct. 25 (1) ; Beira, Nov. 27 (1) ; Tambarara, Mch. 17, Apl. 13, June 12, July 3 (7).

From the dates, I should infer that this species is a resident.

[This graceful Swallow was noticed commonly in the Beira and Gorongoza districts of Portuguese East Africa from October to July, but when I reached Tete in August none were to be seen. It was usually observed in parties of half a dozen or more, and frequented the outskirts and the roads and clearings in the interior of the woods and forests, where it hawks backwards and forwards over the same stretch of ground; in Gorongoza it seemed very partial to the native lands, where it just flew clear of the heads of the standing grain. After several turns the birds frequently settled on the topmost and outstanding branches of dead trees, where they could be easily approached; they shewed no fear even when a shot was fired near them. The call and flight of this species resemble those of *H. holomelæna*, but it is not nearly so silent.

The soft parts are:—Irides dark brown; bill black; legs and toes dark brown.]

381. Pitta longipennis.

P. Tambarara, Mch. (1).

[The specimen secured is the only one that I have seen. It was accidentally caught in a springe set for *Petrodromus tetradactylus* in the Gorongoza forests. On enquiring from the natives, they said the bird was plentiful, but although I was continually on the look-out I did not see it, and could not learn the call, if it had any. My boys further told me that it was not essentially a ground-bird, but was equally at home among the branches, but, of course, I could not verify this.

The soft parts are:—Irides dark brown; bill blackish brown, lighter at tip and middle of lower mandible; legs and toes fleshy white.]

[To be continued.]

XVI.—*Notes on the Ornithology of Corsica.*—Part II.

By the Rev. Francis C. R. Jourdain, M.A., M.B.O.U.

[Continued from p. 208.]

(Text-figures 11 & 12.)

34. Anthus campestris L. Tawny Pipit.

A summer visitor, breeding in fair numbers on the barren hill-sides, and probably also locally in the low ground. Whitehead found it plentiful after the end of April, and breeding, but failed to obtain any nests. Giglioli, however, notes it as "Comune, specialmente d'inverno" on his own and Whitehead's authority, although the latter appears not to have met with it in winter. We came across a fair number of birds in various districts during May, evidently breeding, but should not describe the species as plentiful, although it is generally to be met with on suitable ground. The only nest found was beautifully concealed under a young vine on a hillside, and contained four fresh eggs on May 21. Parrot received three specimens from the neighbourhood of Ajaccio early in June.

35. Anthus trivialis (L.). Tree-Pipit.

Occurs on migration. Wharton saw none in winter, but met with several individuals on the east coast after April 10, while Whitehead records a small flock migrating on April 21.

36. Anthus pratensis (L.). Meadow-Pipit.

A common winter visitor, but the evidence of its remaining to breed is not quite satisfactory, though Wharton speaks of it as "Common and resident." Whitehead only says that it is common in the winter months, but Payne found it fairly numerous in suitable spots in April. Parrot notes it as tolerably frequent in small parties of from three to six birds, or in pairs, near Ajaccio in January and February, but it had already become scarce in March, and he only heard the note twice on March 17. We never came across it in May.

37. Anthus spinoletta spinoletta (L.). Alpine Pipit.

Mr. Crosfield saw a bird in the forest of Vizzavona at about 5000 ft. above the sea, which must have belonged to this species ('Zoologist,' 1891, p. 374). Schiebel was, however, the first to record it definitely from Corsica, and notes that it is not rare, and is apparently rather darker on the upper surface than is usual with mid-European specimens. Parrot met with this species on only one occasion, at the top of the Col de Vizzavona, where small parties or pairs haunted the sheltered patches among the juniper bushes on March 30, at which date the country northward was still under deep snow. It is probably resident in small numbers on the higher mountains.

38. **Anthus spinoletta obscurus** (Lath.). Rock-Pipit.

Whitehead records one specimen shot from a small flock feeding in a marsh on March 25. Parrot also noted either an Alpine or Rock Pipit on the Isles Sanguinaires on March 28, and mentions having seen another apparently similar bird on the Punta della Parata in February. Although Alpine Pipits might well descend to the coast in February, we should expect to find them at higher levels in Corsica by the end of March.

39. **Motacilla flava flava** L. Blue-headed Wagtail.

Occurs on passage in April. Wharton saw several in April, and Whitehead noted a good many on passage from April 22 to May 1. There is no evidence of this species remaining to breed.

40. **Motacilla flava cinereocapilla** Savi. Grey-headed Wagtail.

Wharton records a few at Biguglia in April, together with the preceding form, and Whitehead met with a large party on migration on April 16.

41. **Motacilla boarula boarula** L. Grey Wagtail.

Local name: *Culitremola* (Giglioli), generic. Resident in scattered pairs on most of the rapid mountain-streams, and descending during winter to the sea-coast when the weather is severe, although Major Trevelyan saw Wagtails at Vizzavona in February, with twenty inches of snow on the ground. Wharton found two nests conspicuously placed on the face of bare rocks overhanging streams. One of these had six eggs on April 21, while the other contained nearly fledged young on April 26.

42. **Motacilla alba alba** L. White Wagtail.

Local name: *Culitremola* (Giglioli), generic. A common winter visitor, arriving in autumn and remaining till March. Playne, however, notes that "very few" were seen by him between April 10 and 21, while crossing the island.

43. Certhia familiaris corsa Hartert. Corsican Tree-Creeper.

Certhia familiaris corsa Hartert, Vögel der paläarkt. Fauna, i. p. 320 (1905—Corsica).

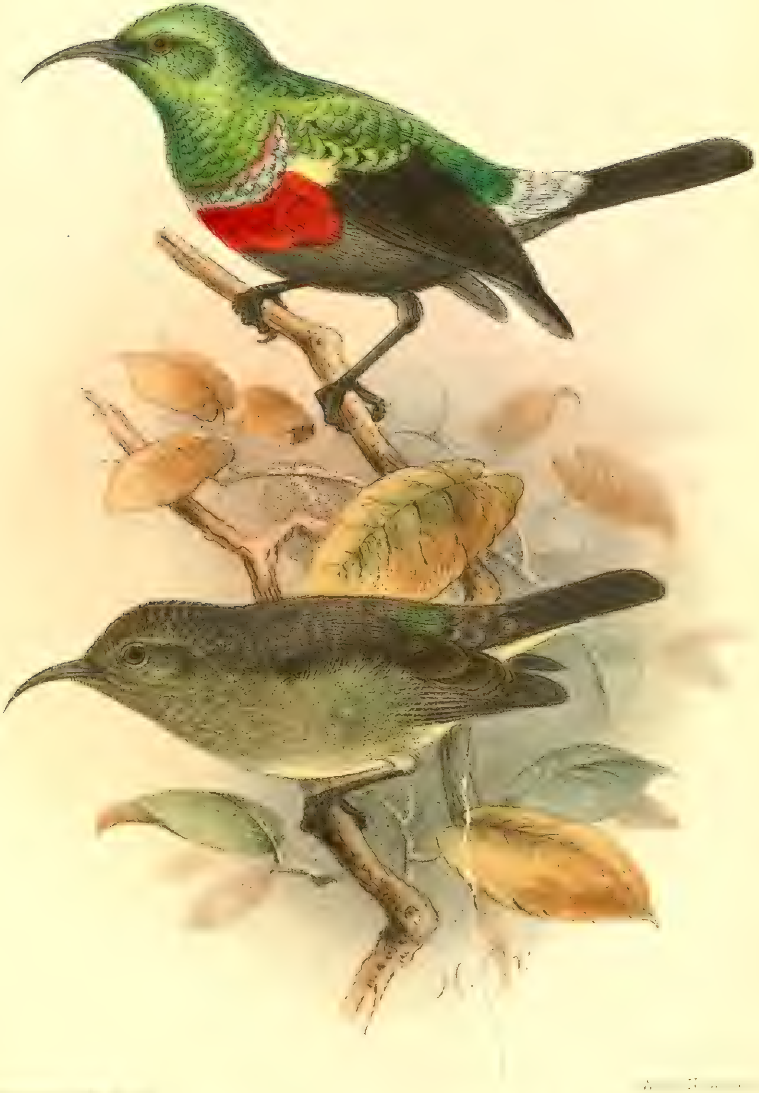
Although this bird is far from common, a few pairs are resident in most of the mountain forests, but it is apparently absent from the low ground. It is slightly larger than the mid-European form, with a long bill and more distinct markings on the upper surface. It haunts both the chestnut and pine forests. Wharton observed it in the chestnut groves at Corte, and Backhouse also met with it in similar localities in winter; while both Whitehead and I found it sparingly distributed in the pine forests, and two nests, each containing five eggs, were taken by me about May 20–26 at over 3000 ft. alt.: the usual site appears to be behind a piece of loose bark. The average size of ten Corsican eggs is 16·13 × 12·4 mm.; max. 16·6 × 12·4 and 16·4 × 12·7; min. 15·5 × 12·3 and 16 × 12·2. Unlike the eggs of *C. brachydactyla*, they are only sparingly marked, chiefly at the big end, with red-brown spots, which tend to form a zone.

44. Sitta canadensis whiteheadi Sharpe. Whitehead's Nuthatch.

Sitta whiteheadi Sharpe, Proc. Zool. Soc. London, 1884, pp. 233, 414, pl. xxxvi.

Local name: *Pichiu* (Giglioli). This most interesting little Nuthatch, distinguishable at a glance by the black cap of the male, was discovered by John Whitehead on June 12, 1883, when he shot a single cock bird. In the following season he returned to the same locality early in May, and succeeded not only in obtaining several specimens but also in discovering the nest and eggs. During eleven days' work in the mountain forests he found nine nests, but some of these were in holes 70 to 100 ft. from the ground, in dead and much decayed pine-trees, and were quite inaccessible. Believing the bird to be confined to this one district and not wishing to hasten its extermination, Whitehead never divulged the locality where he obtained his

Ibis. 1911. Pl. III.



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CINNYRIS NEERGAARDI ♂ & ♀.

specimens. Giglioli, writing in 1890, says that he saw a Nuthatch on September 16, 1877, at Ponte alla Leccia, but did not fire at it, believing it to be *Sitta cæsia.* In the spring of 1896 Dr. A. Koenig visited the forest of Vizzavona and with considerable difficulty obtained five specimens, but was too early for nests, while Mr. A. D. Sapsworth discovered another colony in the early autumn of 1900, and brought home skins. No eggs were, however, taken between 1884 and 1908, when I was fortunate early in May in finding several pairs obviously breeding in pine-forest at over 3000 ft. Returning towards the end of the month, I took three nests with eggs, and found a fourth with young during two days spent in the forest. In 1909 two more nests with eggs were taken, and a third proved to contain young about a week old. Since then Dr. Schiebel has described the juvenile plumage of the male, and Ritter von Tschusi's collector has sent skins from the Vizzavona forest.

It is satisfactory to be able to state that the bird is in no danger of extermination, and is not, as Professor Giglioli supposed, a vanishing form, confined to one isolated locality. On the contrary, I have the best of reasons for believing that it is widely but somewhat locally distributed in the pine-forests of Corsica, and am aware of at least three localities, all at considerable distances apart, in which the bird is tolerably common. Owing to the broken nature of the ground and the scarcity of roads, it is extremely difficult to explore the country systematically, and as the Nuthatch spends most of its time among the upper branches of the pines, so small a bird is very easily overlooked except by those who are well acquainted with its notes and habits. The nests, too, are, as a rule, only obtainable with difficulty and a considerable amount of danger, for the wood is not soft enough for the somewhat weak bill of this species to work until the tree is advanced in decay. Such trees have generally lost all their bark and stand out like bare white masts among the living trees. As a rule, they are rotten at the base, but being sheltered from the wind by their neighbours and offering little resistance owing to the absence of side branches, they will stand until they can almost be pushed down by hand. As may be imagined, it is by no means pleasant work cutting out a nest at a height of fifty or sixty feet from the ground in a tree which rocks ominously from side to side all the time and may come down at any moment, and I have never been able to obtain any assistance in this task from the natives. Occasionally I have been lucky enough to discover a nest at a moderate height. The lowest I have seen was close to the top of a stump 17 ft. high, which was so rotten that we were obliged to support it by means of three stout poles laid against it and roped together at the top, before it would bear a man's weight, and after all the hole proved to contain young about a week old! It is pleasant to be able to confirm the accuracy of Whitehead's notes on his species in 'The Ibis,' 1885, pp. 28–31, but in one or two cases I am able to supplement them. Thus in several cases old nesting-holes of *Dendrocopus major* were certainly used, and the external opening in these cases was quite neatly rounded. The hissing sound, which closely resembles the word "sch-wer, sch-wer," forms no part of the call-notes or song of this species, but is the alarm-note. The song is a rapidly uttered whistle, "Pe-pe-pe-pe-pe-pe-pe," not unlike that of *Parus major corsus*. Few birds are more confiding: while engaged in cutting out a nest I have frequently had both the bird swithin arm's length, apparently displaying much interest in the proceedings, and while cutting away the wood at the back of a nest I have seen the hen make several attempts to enter at the other side. In most cases the full clutch consisted of six eggs, sometimes of only five. The breeding-season is rather variable. In one case the first egg must have been laid about May 1, while two other nests contained full clutches on May 12 and 18, but the best average date is about May 25 or 26. When the young are first hatched they are sat upon by the hen. The cock bird brings food to the nest at short intervals, calls the hen off, and remains some little time inside feeding the young. On his leaving, the hen re-enters the nest and covers the young till he returns. I have seen this repeated half a dozen times·

The eggs vary somewhat, some clutches being more heavily marked than others, but, as a rule, they are handsomely spotted and blotched with rich red-brown at the big end. Average size of forty-two eggs (14 collected by Whitehead and 28 by the writer), 17·18 × 12·96 mm.; max. 18·5 × 13·3 and 18 × 13·5, min. 16 × 12·5 and 16·5 × 12·1. Average weight of 17 eggs, 82·2 mg.

The text-figures (pp. 444, 445) will give some idea of the usual breeding-places of this species. Text-fig. 11 (drawn from a photograph taken by Mr. R. H. Read) represents the ascent of a dead pine which contained a nest in an old Woodpecker's hole, about 40 ft. from the ground. Text-fig. 12 illustrates a nest-hole picked out in a pine by the Nuthatchs, which was only about 18 ft. up; the pine was badly cracked a foot or two above the nest.

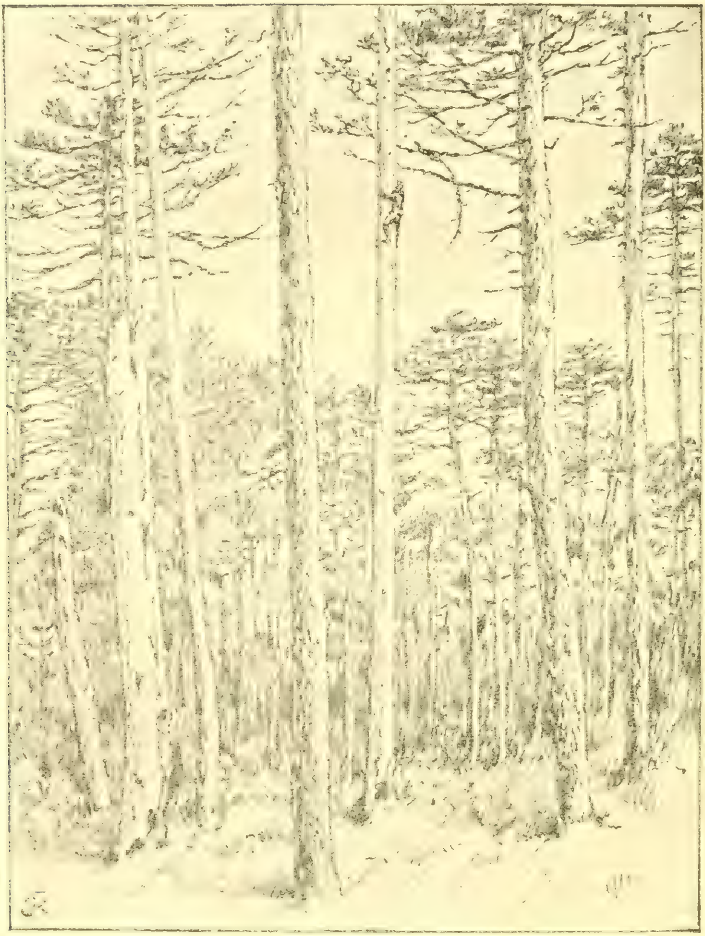
45. Parus major corsus Kleinschm. Corsican Great Tit.
Parus corsus Kleinschmidt, Ornith. Monatsber. xi. p. 6 (1903—Corsica).

Local name: *Capinera.* Differs from the ordinary continental form in its slightly smaller size and shorter wing-measurement, while the white spot on the inner web of the outer tail-feathers is much smaller and sometimes almost absent. An extremely common and widely distributed resident, breeding in the holes of the cork-oaks on the low ground and also in fair numbers in the mountain forests. The eggs, seven to nine in number, may be found in the latter half of May. Average size of 48 eggs, 17·98 × 13·72 mm.; max. 19·3 × 13·2 and 17·3 × 14·5, min. 17 × 13·3 and 17·2 × 13·2. Some clutches are very boldly marked.

46. Parus cæruleus ogliastræ Hart. Corsican Blue Tit.
Parus cæruleus ogliastræ Hartert, Vögel pal. Fauna, i. p. 349 (1905—Sardinia and Corsica).

Local name: *Sturzapridi* (Giglioli). A darker race than the ordinary continental form, in this respect closely resembling the British Blue Tit, and shorter winged than *P. cæruleus cæruleus.* Though a common resident, it is not nearly so plentiful as *P. major corsus,* but is equally

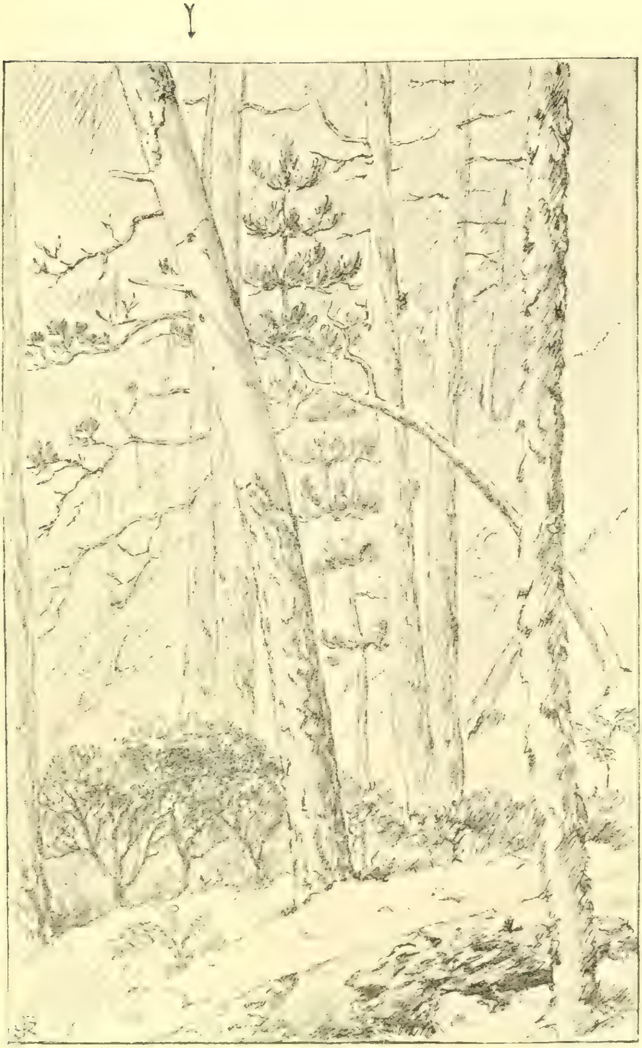
Text-fig. 11.



Typical Nesting Place of *Sitta canadensis whiteheadi* in a dead *Pinus* about 40 feet from the ground.

(Nest in old hole of *Dendrocopus major*.)

Text-fig. 12.



Nest of *Sitta canadensis whiteheadi* in a small dead *Pinus* about 18 feet from the ground.

(Nest-hole excavated by *Sitta.*)

widely distributed. Clutches of from six to eight eggs may be found from May 11 to 28, according to elevation. Average size of 23 eggs, 15·18 × 11·88 mm.; max. 16 × 12 and 15·2 × 12·3, min. 14·3 × 12·3 and 15 × 11·4.

47. Parus ater sardus Kleinschm. Corsican Coal-Tit.

Parus sardus Kleinschmidt, Orn. Monatsber. xi. p. 186 (1903—Sardinia).

The material at present available seems insufficient to decide the status of the Corsican Coal-Tit. Wharton, Whitehead, Playne, Backhouse, and I only met with it in the mountain forests and saw none on the low ground. Parrot, however, found it not rare near the Gulf of Ajaccio in January and February, and the specimens obtained by him appear to be smaller and shorter-winged than typical *P. ater* and apparently belong to the form *P. ater sardus*. Two specimens from Vizzavona and Aïtone are, however, longer-winged, and, as already pointed out by Hartert (Vög. pal. Fauna, i. p. 358), the Corsican mountain birds appear to belong to another race. A nest found by me among the roots of a pine contained six much incubated eggs on May 27: other pairs were building in stumps at over 3000 ft. alt. on May 13 and 26. Average size of six eggs, 15·5 × 12·5 mm.; max. 15·9 × 12·6, min. 15·3 × 12·6 and 15·4 × 12·3.

48. Ægithalus caudatus tyrrhenicus Parr. Corsican Long-tailed Tit.

Ægithalus caudatus tyrrhenicus Parrot, Orn. Jahrb. xxi. p. 155 (1910—Corsica).

Whether the Corsican Long-tailed Tit is really entitled to separation from *Æ. caudatus irbii* is still a somewhat open question, for Dr. Parrot and Dr. Schiebel had only Italian specimens for comparison, and, as I have pointed out already *, the Italian form, *Æ. caudatus italiæ*, is easily distinguishable from the Spanish race. The differences between Corsican and Spanish birds are not nearly so apparent, but I have only been able to examine a few

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* Bull. B. O. C. xxvii. p. 39.

Corsican skins. The wing-measurement of the Corsican race appears, however, to be rather less than that of the other continental forms. On the low ground and the brush-grown hills this bird is a not uncommon resident. Whitehead took two nests, each with seven eggs, on April 20 and 23; and I found young in the nest on May 8 and saw a family-party on the wing on May 23. Average size of 18 Corsican eggs, 14·14 × 10·77; max. 15·5 × 11 and 14·5 × 11·2, min. 13 × 10·3. In habits and notes it closely resembles the other Long-tailed Tits.

49. Regulus regulus interni Hart. Sardinian Goldcrest.

Regulus regulus interni Hartert, Bull. B. O. C. xvi. p. 45 (1906—Sardinia and Corsica).

This race can be recognised without difficulty by the greenish tinge of the upper side and the grey supercilium and nape. It is apparently confined to the mountain-forests, and is not as a rule common, though Parrot found it fairly numerous in the forest of Aïtone.

50. Regulus ignicapillus minor Parr. Corsican Firecrest.

Regulus ignicapillus minor Parrot, Orn. Jahrb. xxi. p. 156 (1910—Corsica).

According to Dr. Parrot, a smaller and shorter-winged race, with less yellow in the greenish upper surface. It is much more generally distributed than the Goldcrest, and is found throughout the year in the low ground. Near the Gulf of Ajaccio, Backhouse and Parrot describe it as common and general. Whitehead also observed it as high as 2500 ft. in the mountains.

51. Lanius senator badius Hartl. Corsican Wood-Chat.

Lanius badius Hartlaub, J. f. O. 1854, p. 100 (Gold Coast).

Local names: *Fierla* (north), *Mascuchia* (south); *Caporosso* (Giglioli). A very distinct form, which can be recognised at once by the absence of the white alar bar in the male and its restricted dimensions in the female, as well as by its stouter bill. This is one of the most striking of Corsican birds, and is a summer visitor to the island in considerable numbers, arriving first about April 15–24, and being distributed throughout most of the low ground and in the hills, where there is open ground and cultivation, up to about 2500 ft. (For a fuller account of its habits as observed in Corsica by the writer see 'British Birds,' iii. pp. 369–370.) The nest is quite characteristic, and is usually placed higher than that of *L. collurio jourdaini*, while the eggs, which are from five to seven in number, are generally laid by the fourth week in May. They do not vary much as a rule, but Whitehead found one clutch of salmon-coloured eggs out of twenty examined, and I obtained two sets of this beautiful variety in 1909. Average size of sixty Corsican eggs, 23·11 × 17·27 mm.; max. 26 × 17·5 and 22·2 × 18·2, min. 22 × 16·5. Hartert states (Vög. pal. Fauna, i. p. 437) that some Sardinian and Corsican specimens, which from the dates are presumably passage migrants, are indistinguishable from the ordinary continental form, *Lanius senator senator* L.

52. Lanius collurio jourdaini Parr. Corsican Red-backed Shrike.

Lanius collurio jourdaini Parrot, Orn. Monatsber. xviii. p. 154 (1910—Corsica).

Local name: *Ciuchana*. This form was separated by Dr. Parrot on account of its generally smaller dimensions and shorter wing, the deeper colouring of the under surface, especially on the flanks, the smaller amount of red-brown on the back, and the generally wider black band on the outer tail-feathers. Kleinschmidt (Orn. Monatsber. 1901, ix. p. 169) noticed that in Sardinian specimens the amount of red on the mantle was much reduced and the under surface whiter, but these characters seem to be somewhat unreliable. In eighteen examples examined by Dr. Parrot and myself the wing varies from 87 to 91 mm. in length, only once attaining 92·5, while in continental specimens it varies from 91 to 98. This Shrike is a common summer visitor to the hills as well as to the plains, arriving, according to Whitehead, on April 24, 1883, and May 5, 1884; but a single bird was seen on January 1, and Giglioli records another near Corte on October 8. The nest is often placed quite close to the ground in thick bushes, and the eggs, five to seven, occasionally even eight, in number are on average smaller than British and continental specimens, while the ground-colour is generally creamy or bluish and the reddish type is quite rare. Average size of 50 Corsican eggs, 21·53 × 16·07 mm.; max. 23 × 16·5 and 22·2 × 17·5, min. 20·3 × 14·6.

53. Muscicapa striata tyrrhenica Schieb. Corsican Spotted Flycatcher.

Muscicapa striata tyrrhenica Schiebel, Orn. Jahrb. xxi. p. 102 (1910—Corsica).

Local names: *Sichi* (north), *Spizicha bugni* (south). A short-winged race, rather lighter and with more indistinct markings on the under surface. A very common and widely distributed summer visitor, arriving first about April 17 or 20, and breeding not only in the low ground but also in the mountain forests to at least 3200 feet. Average size of six Corsican eggs, 18·31 × 14·2 mm.; max. 19 × 14·7, min. 17·4 × 13·5. They may be found from May 20 onward, on trees, stumps, walls, niches of rock, &c.

54. Muscicapa hypoleuca Pall. (*M. atricapilla* auct.). Pied Flycatcher.

Occurs on passage in April. Wharton found it not uncommon near Bastia and Biguglia after April 13. Whitehead noticed a good many after April 17, 1883, and April 22, 1884, but none after May 7; and Playne saw two near Ajaccio in April.

55. Muscicapa collaris Bechst. Collared Flycatcher.

One was shot near Bastia by Wharton on April 10.

56. Phylloscopus collybita collybita (Vieill.). Chiffchaff.

An exceedingly common winter visitor to all the low-lying parts of the island, especially in the south. Parrot heard the song in all directions up to mid-March, but after that time the numbers rapidly diminished, and Wharton observes that it is far less common in April, while Whitehead saw none in spring, and all had disappeared before the beginning of May, when I was on the island. There is no evidence of its breeding in Corsica.

57. Phylloscopus trochilus (L.). Willow-Warbler.

This species apparently occurs only on migration. Wharton found it fairly common after the beginning of April, but saw none in winter; Whitehead saw numbers on March 24, and Playne saw one at Corte and a few at Ajaccio in April. Parrot obtained one bird from the south-west coast on March 28 (wing 70 mm.).

58. Phylloscopus sibilatrix (Bechst.). Wood-Warbler.

The Wood-Warbler also occurs on migration, but apparently a pair or two occasionally remain to breed. Wharton saw several after April 10; Playne met with a few among the olives at Ajaccio in April, and on May 10 I found a pair which had evidently settled down to breed in a swampy wood near the coast, but I was unable to find the nest.

59. Cettia cetti (Marm.). Cetti's Warbler.

A common resident in the wooded swamps and among the thickets by the slow-flowing streams of the eastern plains from Bastia to Bonifacio, and in the Campo de l'Oro, but always in the neighbourhood of water. In spite of its extraordinarily skulking and secretive habits its presence is readily recognised by the occasional loud bursts of song with which it greets the passer-by. Playne found a nest among dead brambles, about 3 feet from the ground, nearly ready for eggs, on April 15, and we saw young birds on the wing at the end of May.

60. Lusciniola melanopogon (Temm.). Moustached Warbler.

Wharton shot an example in the Campo de l'Oro on January 4, and another near the same spot on the 7th. Whitehead saw a bird which apparently belonged to this species on November 17, but failed to secure it.

61. ACROCEPHALUS ARUNDINACEUS (L.). Great Reed-Warbler.

Occurs on passage in small numbers. Wharton saw five and shot three on the east coast, April 16–22; while Whitehead only met with it on passage from May 7 to 8.

62. ACROCEPHALUS STREPERUS (Vieill.). Reed-Warbler.

Giglioli describes this species as scarce along the east coast, and erroneously quotes Wharton in support of this statement, but it does not appear in Wharton's list. Backhouse shot at a bird in some reeds in the Gulf of Ajaccio which may have belonged here. Confirmation of this record is desirable.

63. ACROCEPHALUS SCHŒNOBÆNUS (L.). Sedge-Warbler.

Occurs on migration in spring and autumn. Wharton found it fairly common at Biguglia during April, and Giglioli records it as seen on October 5 near Sagone and on October 11 at Ostriconi.

64. ACROCEPHALUS AQUATICUS Gm. Aquatic Warbler.

Wharton saw several at Biguglia at the end of April, but found it much less common than the Sedge-Warbler. The dearth of *Acrocephali* in the reed-beds on the east coast is remarkable, in view of the ample supply of insect food.

65. HYPOLAIS POLYGLOTTA (Vieill.). Melodious Warbler.

Giglioli shot one near Porto Vecchio on September 26.

66. SYLVIA ATRICAPILLA (L.). Blackcap.

Sylvia atricapilla paulucci Arrigoni, Avicula, vi. p. 103 (1902—Sardinia).

Local names: *Terraiolo, Capinera* (Giglioli). During the winter Blackcaps are common, especially near Ajaccio, but in the summer they seem to be much less plentiful, though a certain number are to be found. Parrot believed that the majority of the winter visitors were not northern birds, but indigenous to the island, belonging to a darker race with darker grey nape and sides of the neck and less olive on the back. Whitehead found a nest, with young a few days old, on May 29, and I obtained one with four fresh eggs on

May 17. Three specimens procured during the winter near Ajaccio are ascribed by Parrot to *S. atricapilla atricapilla* (L.).

67. SYLVIA COMMUNIS Lath. Whitethroat.

A scarce visitor on passage; two seen at Biguglia in April by Wharton and a few by Whitehead about April 20. Probably a few pairs stay to nest in the mountains, as Whitehead mentions having seen some there after mid-May.

68. SYLVIA CURRUCA (L.). Lesser Whitethroat.

Whitehead describes this species as a fairly common resident, and took a nest with four fresh eggs on April 19. Not recorded by other observers.

69. SYLVIA MELANOCEPHALA MELANOCEPHALA (Gm.). Sardinian Warbler.

This is the most generally distributed and commonest Warbler in Corsica during the breeding-season, when it may be met with not only by the coast, but also on the scrub-covered mountain-sides, according to Backhouse even up to 4000 ft. It is resident on the island, and Parrot has heard the song of the male as early as January 30. The nest is well and solidly built, sometimes quite close to the ground, but generally in thick bush and well sheltered from the wind. The breeding-season must begin early, and more than one brood is reared during the summer, for I found a nest with young on May 12, and others with fresh eggs on the 10th, 21st, and 29th of that month; while Whitehead took incubated eggs on May 15. There is considerable variety of coloration, but the erythristic type of egg, not uncommon in Spain, was not met with. One nest contained a Cuckoo's egg.

70. SYLVIA CANTILLANS CANTILLANS (Pall.) [*S. subalpina* auct.]. Western Subalpine Warbler.

Local name: *Scrizola*. A common summer visitor to the "macchia," arriving, according to Whitehead, about mid-April, while Giglioli records a specimen from Corte in October. The male may frequently be seen uttering his song while indulging in a short upward flight and rapid descent into the scrub. The nest is much slighter and smaller than that of the Sardinian Warbler and may be found in cistus or in thick bushes, such as myrtle, but not at any height from the ground. The eggs are three or, more generally, four in number. Whitehead took his first nest on May 6, but most eggs are laid during the latter half of May. Not a single egg out of thirty-nine examined shewed any tendency to erythristic colouring, though this type is quite common in some parts of Spain and is also found in eggs of the eastern race from Greece. The average size of thirty-nine Corsican eggs is 16·79 × 13·03 mm.; max. 19·1 × 13·7, min. 15 × 12·1. A nest found on May 21 contained one egg and also one of a Cuckoo.

71. Sylvia conspicillata conspicillata Temm. Spectacled Warbler.

Another summer visitor to the "macchia" on the hillsides. Whitehead found a nest with three eggs and snared the bird on May 13. He also saw several others in the vicinity. Giglioli describes this species as tolerably common and sedentary, but this is probably an error.

72. Sylvia undata (Bodd.). Furze-Warbler.

As already pointed out by Hartert and Parrot, Corsican birds, on account of their smaller dimensions and dark colouring, seem to approach very closely to the North African form, *S. undata toni* Hart., but the examination of further material is desirable. Whitehead met with this species in two localities in February; Backhouse and Giglioli record it from Ajaccio in winter, and the latter also met with it in the Golfe de Porto early in October. I found young already on the wing and old nests on the east coast on May 11. Parrot records specimens from the Ajaccio market; he also obtained one from Solanio, and observed others on Finosa at about 1500 ft., in March. It is evidently a local resident.

73. Sylvia sarda Temm. La Marmora's Warbler.

Sylvia sarda affinis Parrot, Orn. Monatsber. xviii. p. 156 (1910—Corsica).

Parrot states that on the average Corsican birds are shorter-winged than Sardinian, but the supposed differences in colour prove to be due to seasonal changes. This is a common resident in the macchia, not only on the coast and islets but also on the brush-covered mountain-slopes inland. Like the Subalpine Warbler it frequently utters its song on the wing, dropping immediately afterwards into the scrub. Lilford found it breeding on the islets in the Straits of Bonifacio, between Maddalena and Caprera, and obtained two nests with incubated eggs on May 15, while fledged young were seen on May 17. Whitehead took a nest with four eggs (incubated) on April 24, low down in a cistus bush, and I found one with four slightly incubated eggs on May 10. Average size of four Corsican eggs, 16·85 × 13·12 mm.; max. 17 × 13·1, min. 16·7 × 13·1 and 17 × 13. The nest is well and compactly built, but is hard to find, and the birds are difficult to get at on account of their skulking habits.

74. Cisticola cisticola (Temm.). Fantail Warbler.

Wharton found this species numerous at Biguglia, but nowhere else, while Whitehead and Giglioli describe it as a common resident in the swamps.

75. Turdus pilaris L. Fieldfare.

Whitehead records a few seen in stormy weather from March 12 to 16, 1883.

76. Turdus viscivorus reiseri Schieb. Corsican Mistle Thrush.

Turdus viscivorus reiseri, Schiebel, Orn. Monatsber. xix. p. 85 (1911—Corsica and Sardinia).

Local names: *Tordela*; *Trizzine* (Giglioli). Not common, but resident and breeding in the pine-forests at 2500 ft. and upwards. Parrot met with it in the forests of Vizzavona and Aïtone. During the winter months it also occurs on the low ground, and Backhouse found it common near Ajaccio in the hard winter of 1890–91. In 1909 R. H. Read and I found a very young bird, scarcely able to fly, on May 19, and on May 27 took a nest, with four beautiful eggs with bright blue ground-colour, from the trailing branches of a *Pinus laricio*. In the same tree was a Chaffinch's nest with fresh eggs. As far back as 1865 Vian noticed that these two birds were addicted to breeding in company, and other observers, including Mr. R. J. Ussher, have since commented on the same fact. Similarly, the Brambling in Norway often places its nest close to that of the Fieldfare, no doubt for the purpose of protection (*cf.* 'Zoologist,' 1895, p. 290). Dr. Schiebel has recently separated this race on account of its slightly shorter wing and darker, more olive-grey colouring.

77. Turdus philomelos philomelos Brehm. Continental Song-Thrush.

Local names: *Tordo, Tordolo.* A winter visitor in considerable numbers. Wharton observed none after March, but Whitehead notes the last seen on April 12, and Parrot saw the last flock on March 15. He also heard single males in song in February and early March.

78. Turdus musicus L. [*T. iliacus* auct.]. Redwing.

Wharton saw two and shot one on February 6: another was found in the Ajaccio market, where Parrot also observed it on three occasions in January and February.

79. Turdus torquatus L. Ring Ousel.

One settled within ten yards of Whitehead during the great storm of March 12, 1883, but whether it belonged to the Scandinavian or Central European form is uncertain.

80. Turdus merula merula L. Blackbird.

Local name: *Merlo.* Very large numbers visit the island from the Continent during the winter months and are shot and snared for the market in great quantities. These winter visitors leave in March, but a fair number of birds are resident in the island, breeding in the low ground and in the hills up to 3000 ft. or so, where the country is not too thickly forested. Wharton found no eggs till mid-April, and Jesse records nests on the 15th and 17th of that month, but probably more than one brood is reared.

81. Monticola solitarius solitarius (L.). Blue Rock-Thrush.

Local name: *Merla petrajola.* A fairly common and generally distributed resident in all rocky ground, from the islets in the Straits of Bonifacio to the mountains in the interior of the island. It is generally to be met with in pairs, and the male often sings while flying up in the air and descending again. Whitehead says that in severe weather the birds often come into the towns. He also found a nest with four young a few days old on May 14, while we found fledged young on May 22. [Although *Monticola saxatilis*, the Rock-Thrush, has not yet been recorded from Corsica, I think that it may prove to occur there, as a forester gave me a very accurate description of the bird and stated that a few individuals were resident in the mountains.]

82. SAXICOLA ŒNANTHE ŒNANTHE (L.). Common European Wheatear.

A fairly common visitor on migration, some few pairs probably remaining to breed. In 1883 Whitehead recorded the first arrival on March 24, and in the following year on March 30; but at Corte, Wharton did not observe it till April 8. Parrot shot a male on the Isles Sanguinaires on March 28, and saw a female on the following day. Whitehead mentions having found a pair high up in the mountains on May 12, which were probably breeding, and I saw a male on a promontory on the east coast on May 11, which may have had a mate incubating close at hand. The only specimen obtained by Parrot has a wing-measurement of 91·5 mm.

83. PRATINCOLA RUBETRA (L.). Whinchat.

A visitor on migration, staying only a few days according to Whitehead, who records the first arrival in 1883 on April 15 and in 1884 on April 20. Wharton first noted it at Biguglia on April 17, and Payne saw one near Corte on the 20th.

84. PRATINCOLA TORQUATUS INSULARIS Parr. Corsican Stonechat.

Pratincola torquata insularis Parrot, Orn. Monatsber. xviii. p. 155 (1910—Corsica).

Local names: ♂ *Prete*, ♀ *Nonna* (Giglioli). Separated by Dr. Parrot on account of its somewhat smaller size, the deeper black of the upper surface, the duller and less rusty edges to the feathers, and the more intense colouring of the under side and head, when compared with the continental race. It is exceedingly common on the west side of the island, but much less plentiful on the east side, and is resident, ranging in summer to the mountain valleys in the interior, and descending in winter to the plage. Whitehead records fully fledged young on June 16, but I saw young on the wing on May 19, and Parrot received one shot on May 25.

85. PHŒNICURUS PHŒNICURUS (L.). Redstart.

Local name: *Nuaggiolo* (Giglioli). Occurs only on passage in small numbers: several were seen after April 10 by Wharton. Whitehead saw very few, all between March 24 and April 19: Playne noted a few in April and Parrot obtained a male on April 10.

86. PHŒNICURUS OCHRURUS GIBRALTARIENSIS (Gm.). Black Redstart.

Not known at present except as a winter visitor. Whitehead is the only observer who describes it as common at that season: in the Ajaccio district Wharton, Backhouse, and Parrot all regard it as far from common. Parrot's latest record is dated March 13, but Whitehead observed it as late as March 28. There is no evidence of its breeding.

87. LUSCINIA MEGARHYNCHA CORSA Parr. Corsican Nightingale.

Luscinia megarhyncha corsa Parrot, Orn. Monatsber. xviii. p. 155 (1910—Corsica).

Local name: *Rusignolo*. Dr. Parrot distinguishes the Corsican breeding birds on account of their somewhat shorter wings, the darker brown of the upper surface, especially on the head and back, and the colder, more greyish-brown tinge on the throat and edges of the primaries. To the low ground and foothills this bird is a very common summer visitor, but it does not ascend to any height in the mountains. Whitehead notes the dates of first arrivals in 1883 and 1884 as April 19 and April 7. Wharton's statement in 'The Ibis,' 1876, p. 21, that it was noticed on "March" 16, is a slip of the pen for

April (*cf.* Dresser, 'Birds of Europe,' ii. p. 365). In the thickets near Ghisonaccia and Aleria this bird is extremely plentiful, and the chorus of melody about 4.30 A.M. towards the end of May is something never to be forgotten. Many of the nests are placed 3 ft. or more from the ground in bramble thickets, and full clutches may be found from May 14 onwards. Average size of 26 Corsican eggs, 20·82 × 16·02 mm.; max. 22·9 × 17, min. 19·5 × 15·7 and 20·1 × 15·3.

88. LUSCINIA SUECICA CYANECULA (Wolf). White-spotted Bluethroat.

Only three records on spring migration: one shot by Jesse on April 12 at Biguglia, another killed by Whitehead on March 28, and an old male obtained by Parrot on March 28 on the Isles Sanguinaires.

89. DANDALUS RUBECULA SARDUS (Kleinschm.). Sardinian Redbreast.

Erithacus dandalus sardus Kleinschmidt, Falco, ii. p. 71 (1906—Sardinia).

Local name: *Pettirosso.* Distinguished from the Continental Redbreast by the darker and more olive tone of the upper surface and the deeper red-brown of the throat and upper breast, in this respect approaching our British insular form, *D. rubecula melophilus.* Parrot noticed considerable variation in winter-killed specimens, among which probably both *D. r. sardus* and *D. r. rubecula* were represented. During the winter Redbreasts are very abundant in the plain, and great numbers are killed for the market. Most of these disappear as spring advances, but even in the plage an occasional pair may be found breeding in the densest macchia. They are, however, decidedly rare, but in the mountain forests at 2000–3000 ft. and upwards they are quite common, especially among the pine-woods.

[To be continued.]

XVII.—*List of Birds collected in Argentina, Paraguay, Bolivia, and Southern Brazil, with Field-notes.* By CLAUDE H. B. GRANT, M.B.O.U.—Part III. COLUMBIDÆ —RHEIDÆ.*

Fam. COLUMBIDÆ.

227. COLUMBA PICAZURO.

Columba picazuro Arg. Orn. ii. p. 139; Salvad. Cat. B. xxi. p. 271.

a. ♀ ad. Los Ynglases, Ajó. Oct. 6, 1908.
b. ♂ ad. „ „ Apr. 23, 1909.
c. ♀ ad. „ „ June 10, 1909.
d. ♂ ad. „ „ Dec. 28, 1909.
e. ♂ imm. „ „ Jan. 18, 1910.
f, g. ♂ ad. Tebicuari, Paraguay. Aug. 8, 1909.
h. ♂ ad. Puerto Esperança, Brazil. Sept. 25, 1909.
i. ♀ ad. Near Villa Franca, Paraguay. Nov. 6, 1909.

Little need be said about the habits of this Pigeon, which have been often described, except that on several days about the 27th of September we saw vast flocks settling on the sand-banks in the Alto Paraguay, but they were very wary and it was impossible to approach within shot.

228. COLUMBA SYLVESTRIS.

Columba sylvestris Chubb, Ibis, 1910, p. 59.

a. ♀ ad. Curuzu Chica, Paraguay. Oct. 29, 1909.

This was the only specimen of this species that was observed; it was shot on the ground in the forest by the roadside.

229. ZENAIDA AURICULATA.

Zenaida auriculata Salvad. Cat. B. xxi. p. 384.

Zenaida maculata Arg. Orn. ii. p. 141.

a. ♂ ad. Los Ynglases, Ajó. Sept. 11, 1908.
b. ♂ ad. „ „ Oct. 12, 1908.
c. ♀ ad. „ „ Oct. 18, 1908.
d. ♂ ad. „ „ Oct. 20, 1908.

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* Concluded from above, p. 350. The arrangement and nomenclature are nearly the same as those of Sclater and Hudson's 'Argentine Ornithology.'

e. ♂ ad. Los Ynglases, Ajó. Dec. 3, 1908.
f. ♂ ad. ,, ,, Jan. 7, 1909.
g. ♂ juv. ,, ,, Mar. 15, 1909.
h. ♂ imm. ,, ,, May 13, 1909.
i. ♀ imm. ,, ,, Feb. 2, 1909.

This is a very common species in the Ajó district, where it inhabits the tala woods, which resound with its melodious coo. It appears to breed in every month of the year, the nest being a platform of sticks placed in any convenient situation in a bush or tree. Two eggs are the normal clutch, though on one occasion I took two nests containing three eggs in each; but as these were very close together, I conclude that a third bird had placed one of its two eggs in each nest.

230. COLUMBULA PICUI.

Columbula picui Arg. Orn. ii. p. 143; Salvad. Cat. B. xxi. p. 470.

a. ♀ imm. Los Ynglases, Ajó. Nov. 18, 1908.
b, c. ♂ ♀ ad. ,, ,, Dec. 10, 1908.
d, e. ♂ imm. ,, ,, Mar. 29, 30, 1909.
f. ♂ imm. ,, ,, Apr. 28, 1909.
g, h, i, j. ♀ imm. ,, ,, Apr. 19–28, 1909.
k. ♀ ad. Boca de Homoguera, Brazil. Oct. 12, 1909.

231. CHAMÆPELIA TALPACOTI.

Chamæpelia talpacoti Arg. Orn. ii. p. 144; Salvad. Cat. B. xxi. p. 485.

a. ♂ ad. Rabicho, Alto Paraguay, Brazil. Oct. 8, 1909.

Observed not uncommonly in the woods in North Paraguay and Brazil, often in company with *C. picui* on the cultivated lands.

232. LEPTOPTILA CHLOROAUCHENIA.

Engyptila chalcauchenia Arg. Orn. ii. p. 144.

Leptoptila chloroauchenia Salvad. Cat. B. xxi. p. 554; Chubb, Ibis, 1910, p. 63.

a. ♀ ad. Near Porto Martinho, Brazil. Sept. 10, 1909.
b, c, d. ♂ ad. Near Goya, N. Argentine. Nov. 13, 1909.

I have an adult female from Ajó collected by Miss Runnacles in Sept. 1909; this is the only example recorded from that locality.

Fam. CRACIDÆ.

233. PIPILE CUMANENSIS.

Pipile cumanensis Arg. Orn. ii. p. 416; Grant, Cat. B. xxii. p. 516.

a. ♂ ad. Concurencia, Alto Paraguay. Sept. 9, 1909.

b, c. ♂ ♀. Pan de Azucar, Alto Paraguay, Brazil. Sept. 18, 1909.

These three specimens agree with others in the British Museum. They are in somewhat worn plumage and all are beginning to moult.

This Guan seems to prefer the wooded slopes of the conical hills, and was usually observed in parties of about half a dozen. When alarmed they perched on the tops of the tallest trees, but could generally be approached within gunshot. The call is loud, but quite different from that of the *Ortalis*, and the flight is fairly swift and gliding. Only noticed from the Concurencia northwards.

234. ORTALIS CANICOLLIS.

Ortalis canicollis Arg. Orn. ii. p. 147; Grant, Cat. B. xxii. p. 508.

a, b. ♂ ♀ ad. Monte Alto, Paraguay. Aug. 26, 1909.
c. ♂ ad. Puerto San Juan, ,, Aug. 27, 1909.

These specimens are identical with examples in the British Museum from Northern Argentina.

I can add nothing to the excellent description of the habits and call of this Guan given by Prof. Graham Kerr in 'The Ibis' for 1892 (p. 148).

On two occasions I saw the nest, which was placed in the topmost branches of a tallish tree and was a fair structure of sticks; according to the natives the eggs are of about the size and colour of the egg of the domestic fowl.

I first observed the bird at Colonia Mihanovitch, N. Argentine, but it was heard or observed commonly right up to Corumbá. The only native name I heard for it was "Yacu."

235. RALLUS RHYTIRHYNCHUS.

Rallus rhytirhynchus Arg. Orn. ii. p. 149.

Limnopardalis rhytirhynchus Sharpe, Cat. B. xxiii. p. 29.

a. ♀ imm. Cape San Antonio. Dec. 21, 1908.
b. ♂ imm. Los Ynglases, Ajó. Dec. 28, 1908.
c. ♂ imm. ,, ,, Jan. 27, 1909.
d, e. ♂ ♀ imm. ,, ,, Feb. 10–14, 1909.
f. ♀ ad. ,, ,, May 30, 1909.

This is the common Rail of the Ajó district, and frequents the dense reed-beds which abound in that locality; it is somewhat shy, but by waiting specimens can be easily procured.

236. ARAMIDES CHIRICOTE.

Aramides chiricote Sharpe, Cat. B. xxiii. p. 58.

a. ♀ ad. Colonia Risso, Paraguay. Sept. 8, 1909.
b, c. ♂ ad. Pan de Azucar, Brazil. Sept. 18, 1909.

This Rail was observed in several localities in Paraguay and Brazil. It was usually seen in pairs feeding along the banks of the numerous creeks and riachos, wherever there was thick undergrowth or overhanging bush.

237. FULICA ARMILLATA.

Fulica armillata Arg. Orn. ii. p. 157; Sharpe, Cat. B. xxiii. p. 218.

a. ♀ ad. Los Ynglases, Ajó. Oct. 27, 1908.
b. ♂ ad. ,, ,, Mar. 8, 1909.

All three species of Coot (*F. armillata*, *F. rufifrons*, and *F. leucopyga*) are found in the Ajó district, though no specimens of the last species were obtained. On all the swamps Coots simply swarm, and if the observer goes quietly up to any open sheet of water they can be seen dotting the whole surface in company with numbers of Ducks and Swans.

238. FULICA LEUCOPYGA.

Fulica leucopyga Arg. Orn. ii. p. 157; Sharpe, Cat. B. xxiii. p. 220.

a. ♀ ad. Los Ynglases, Ajó. Jan. 11, 1909.
b, c. ♂ ♀ ad. ,, ,, Mar. 17, 1909.
d. ♂ ad. ,, ,, April 6, 1909.

This is, perhaps, the commonest of the three Coots in the

Ajó district. I have never been able to distinguish its cry from that of the others; it is a weird series of noises, the commonest being very similar to derisive laughter softened down.

Fam. ARAMIDÆ.

239. ARAMUS SCOLOPACEUS.

Aramus scolopaceus Arg. Orn. ii. p. 159; Sharpe, Cat. B. xxiii. p. 237.

a. ♂ ad. Pan de Azucar, Brazil. Sept. 18, 1909.

Irides brown, eyelid dusky: bill ashy at tip, dull yellow-ochre at base, culmen dusky; legs and toes ashy.

Owing to the dry seasons experienced in the Ajó district, this bird was absent during my visit, but a few arrived in the summer of 1909. It was quite commonly observed on the river-expedition in all swampy localities.

The cry is loud and the flight slow and awkward, the wings being held well above the back and the head rather low. When alarmed this bird generally perches on the tops of trees or bushes, after the manner of a Heron.

The five eggs obtained agree very well with those in the British Museum, but are slightly darker in the ground-colour.

Fam. PARRIDÆ.

240. PARRA JACANA.

Parra jacana Arg. Orn. ii. p. 163.

Jacana jacana Sharpe, Cat. B. xxiv. p. 82.

a, b, c. ♂ ♀ ad. Tayru, Paraguay. Aug. 5, 1909.

d, e, f. ♂ ♀ ad. and young. Ten miles above Villa Pilar, Paraguay. Aug. 7, 1909.

g. ♂ ad. Curuzu Chica, Paraguay. Aug. 28, 1909.

Observed commonly throughout the river expedition on all the swamps and lagoons. It is very tame and more or less gregarious. Its cry is a sharp short "whit." It has the habit of the Plovers of raising the wings above the back before flight, and many individuals doing this together present a pretty sight.

Fam. CHARADRIIDÆ.

241. VANELLUS CAYENNENSIS.

Vanellus cayennensis Arg. Orn. ii. p. 165.

a. ♀ ad.	Los Ynglasès,	Ajó.	Sept. 11, 1908.
b. ♀ ad.	,,	,,	Sept. 23, 1908.
c. ♀ ad.	,,	,,	Sept. 24, 1908.
d. ♂ ad.	,,	,,	Sept. 25, 1908.
e. ♀ ad.	,,	,,	Sept. 30, 1908.
f, g. ♂ nestling.	,,	,,	Nov. 1, 1908.
h. ♀ nestling.	,,	,,	Nov. 1, 1908.
i. ♂ young.	,,	,,	Jan. 11, 1909.
j. ♀ ad.	,,	,,	Jan. 11, 1909.
k. ♂ young.	,,	,,	Jan. 12, 1909.
l. ♂ young.	,,	,,	Jan. 13, 1909.
m. ♀ nestling.	,,	,,	Jan. 20, 1909.
n. ♀ imm.	,,	,,	Feb. 15, 1909.
o. ♂ young.	,,	,,	Jan. 19, 1910.

A very common resident in the Ajó district. The nest is a slight hollow in the ground, sometimes lined with a few bits of sticks or rubbish, and four eggs form the complete clutch.

Thirty-six eggs were brought home; the ground-colour varies from bright buff to clear olive, and they measure: axis 1·7 to 2·0 in., diam. 1·27 to 1·37.

242. CHARADRIUS DOMINICUS.

Charadrius dominicus Arg. Orn. ii. p. 170; Sharpe, Cat. B. xxiv. p. 195.

a, b. ♀ ad. Tuyu, Ajó. Dec. 2, 1908.
c. ♂ ad. Cape San Antonio. Dec. 17, 1908.
d. ♀ ad. Los Ynglases, Ajó. Jan. 11, 1909.

All these specimens are in winter plumage, and are still moulting.

The American Golden Plover is very plentiful throughout the summer months, and frequents, often in large flocks, both the open grass-land and the edges of the lagoons. I have not observed it during the winter.

243. ZONIBYX MODESTUS.

Eudromias modesta Arg. Orn. ii. p. 171.

Zonibyx modesta Sharpe, Cat. B. xxiv. p. 238.

a. ♂ imm. Luiconia, Ajó. Apr. 29, 1909.

A common bird throughout the winter months in the Ajó district, frequenting the open grass-lands, usually singly.

244. ÆGIALITIS FALKLANDICA.

Ægialitis falklandica Arg. Orn. ii. p. 172; Sharpe, Cat. B. xxiv. p. 295.

a. ♂ ad. Los Ynglases, Ajó. Nov. 10, 1908.
b. ♀ ad. Cape San Antonio. Dec. 17, 1908.
c. ♀ young. „ „ „ Dec. 19, 1908.
d. ♂ young. Tuyu, Ajó. Apr. 11, 1909.
e. ♀ young. Los Ynglases, Ajó. Apr. 16, 1909.
f, g. ♂ ad. „ „ Dec. 15, 1909.
h. ♀ ad. „ „ Dec. 15, 1909.
i. ♀ young. „ „ Jan. 23, 1910.

A very common species in the Ajó district, frequenting both the coast and inland waters, and being especially plentiful on the former. Flocks of several hundreds can be observed throughout the winter months. It also breeds there, as mentioned by Mr. Ernest Gibson, probably more plentifully in the sand-hills along the coast. In habits it much resembles the European Ringed Plover, *Æ. hiaticola.*

245. ÆGIALITIS COLLARIS.

Ægialitis collaris Arg. Orn. ii. p. 173; Sharpe, Cat. B. xxiv. p. 288.

a. ♂ ad. Monte Alto, Paraguay. Aug. 25, 1909.
b. ♀ ad. Desaguadero, „ Aug. 29, 1909.
c, d. ♂ ♀ ad. Colonia Risso, „ Sept. 9, 1909.
e. ♂ ad. Near Puerto Braga, Paraguay. Sept. 24, 1909.

A fairly common species on the Parana and Paraguay Rivers, especially on the latter, and many pairs were observed. On the 10th and 24th of September breeding pairs were seen, but I could not find their nests, though the birds ran about in a very excited manner within a few feet of us. On Sept. 9th, at Colonia Risso, a clutch of three eggs was taken, the nest being a mere hollow in the open sand and in close proximity to the nests of *Phaëthusa magnirostris* and *Rhynchops melanura*. The eggs agree with a specimen in the British Museum from Brazil, but are perhaps very slightly paler in the ground-colour.

246. OREOPHILUS RUFICOLLIS.

Oreophilus ruficollis Arg. Orn. ii. p. 174; Sharpe, Cat. B. xxiv. p. 123.

a, b. ♂ ♀ ad. Luiconia, Ajó. Apr. 29, 1909.
c, d. ♂ ad. Los Ynglases, Ajó. May 24, 1909.

A common species during the winter months in this district, where it frequents the open grass-lands in flocks.

247. HÆMATOPUS PALLIATUS.

Hæmatopus palliatus Arg. Orn. ii. p. 176; Sharpe, Cat. B. xxiv. p. 114.

a. ♂ ad. Tuyu, Ajó. Nov. 10, 1908.
b. ♂ ad. Cape San Antonio. Dec. 18, 1908.
c. ♂ ad. Tuyu, Ajó. Jan. 1, 1909.
d. ♀ ad. „ „ Apr. 11, 1909.

These specimens agree exactly with those in the British Museum from more northern localities.

This Oyster-catcher is common and resident on the sea-coast, where it breeds on the sand-dunes. It has a clear loud call and is by no means wild, especially when nesting. The nest is a mere hollow scraped in the sand in sheltered spots on the sand-dunes, and I have never taken more than two eggs as a clutch.

Fam. THINOCORIDÆ.

248. THINOCORYS RUMICIVORUS.

Thinocorus rumicivorus Arg. Orn. ii. p. 176; Sharpe, Cat. B. xxiv. p. 719.

a, b. ♀ ad. Luiconia, Ajó. Apr. 29, 1909.

Irides dark horn-coloured; bill ashy, nostrils and tip dark horn-coloured; legs and toes dull greenish yellow.

Fam. SCOLOPACIDÆ.

249. HIMANTOPUS BRASILIENSIS.

Himantopus brasiliensis Arg. Orn. ii. p. 179.
Himantopus melanurus Sharpe, Cat. B. xxiv. p. 316.

a. ♀ ad. Los Ynglases, Ajó. Oct. 3, 1908.
b, c. ♂ ♀ nestling. ,, ,, Nov. 1, 1908.
d. ♂ ad. ,, ,, Jan. 11, 1909.
e. ♂ young. ,, ,, Jan. 27, 1909.
f. ♀ imm. ,, ,, Mar. 6, 1909.
g. ♂ ad. Riacho Ancho, N. Argentine. Aug. 1, 1909.

This Stilt is resident and common in the Ajó district, frequenting all the inland waters, and many were seen on the expedition up the Paraguay River.

During the winter season they associate in flocks. Their usual cry is sharp and penetrating, a sort of short "wheet."

250. STEGANOPUS WILSONI.

Steganopus tricolor Sharpe, Cat. B. xxiv. p. 705.
Phalaropus wilsoni Arg. Orn. ii. p. 180.

a. ♀ ad. Bolivia, Alto Paraguay. Oct. 15, 1909.

Irides hazel: bill black; legs and toes dull yellow-ochre.

251. GALLINAGO PARAGUAYÆ.

Gallinago paraguayæ Arg. Orn. ii. p. 181; Sharpe, Cat. B. xxiv. p. 650.

a. ♂ ad. Los Ynglases, Ajó. May 16, 1909.

Irides dark brown; bill medium olive at base, dark horn-coloured at tip; legs and toes olive.

252. RHYNCHÆA SEMICOLLARIS.

Rhynchæa semicollaris Arg. Orn. ii. p. 182.
Rostratula semicollaris Sharpe, Cat. B. xxiv. p. 690.

This species is not represented in the collections made by me, but there is an adult female (shot at Los Ynglases, Ajó, on Sept. 21, 1909) in the collection of Miss Runnacles, and ten eggs collected by her between Oct. 18 and Nov. 14, 1909.

253. TRINGA MACULATA.

Tringa maculata Arg. Orn. ii. p. 183.

Heteropygia maculata Sharpe, Cat. B. xxiv. p. 562.

a–h. ♂ ad. and young. Los Ynglases, Ajó. Sept. 11–Mar. 19, 1908–9.

i. ♂ ad. Los Ynglases, Ajó. Jan. 6, 1910.

j. ♂ ad. Medano, Paraguay. Sept. 16, 1909.

k, l. ♀ ad. Porto Esperança, Brazil. Sept. 25, 1909.

254. TRINGA BAIRDI.

Tringa bairdi Arg. Orn. ii. p. 184.

Heteropygia bairdi Sharpe, Cat. B. xxiv. p. 570.

a. ♀ ad. Tuyu, Ajó. Nov. 22, 1908.

b. ♀ ad. Los Ynglases, Ajó. Dec. 19, 1909.

Not nearly so common as the following species, with which it usually consorts.

255. TRINGA CANUTUS.

Tringa canutus Sharpe, Cat. B. xxiv. p. 593.

a, b, c. ♂ ♀. Cape San Antonio. Dec. 19, 1908.

These specimens are in moult and have almost assumed the adult winter dress, but have not yet lost the wing-coverts of the young plumage.

Two or three parties of Knots, comprising eight or ten individuals, were observed on the sea-shore at Cape San Antonio. This appears to be a new record for Argentina, but is not unexpected, perhaps, as the bird has been traced as far south as Brazil.

256. TRINGA FUSCICOLLIS.

Tringa fuscicollis Arg. Orn. ii. p. 185.

Heteropygia fuscicollis Sharpe, Cat. B. xxiv. p. 574.

a. ♀ young. Los Ynglases, Ajó. Oct. 27, 1908.

b. ♀ ad. Cape San Antonio. Dec. 17, 1908.

c. ♂ ad. Los Ynglases, Ajó. Mar. 15, 1909.

d, e. ♀ young. ,, ,, Jan. 23, 1910.

f. ♂ young. Near Esquina, N. Argentine. Nov. 14, 1909.

Quite one of the commonest Waders, and observed in all parts visited during the summer months; it frequents both the coast and inland waters in enormous flocks.

257. Calidris arenaria.

Calidris arenaria Arg. Orn. ii. p. 186; Sharpe, Cat. B. xxiv. p. 526.

a. ♂ ad. Cape San Antonio. Dec. 19, 1908.

b, c, d, e. ♂ ♀ ad. Tuyu, Ajó. Jan. 12, 1910.

Commonly observed during the summer months along the coast in the Ajó district in flocks of from six to twelve individuals.

258. Totanus melanoleucus.

Totanus melanoleucus Arg. Orn. ii. p. 186; Sharpe, Cat. B. xxiv. p. 426.

a, b. ♂ ad. Los Ynglases, Ajó. Mar. 8–17, 1909.

c. ♀ ad. Luiconia, Ajó. Apr. 29, 1909.

An occasional individual is seen in the winter months, and is, I presume, an immature non-breeding bird.

259. Totanus flavipes.

Totanus flavipes Arg. Orn. ii. p. 187; Sharpe, Cat. B. xxiv. p. 431.

a, b. ♂ ad. Los Ynglases, Ajó. Sept. 11–29, 1908.
c. ♂ ad. ,, ,, Nov. 5, 1908.
d, e, f. ♂ ♀ young. ,, ,, Feb. 7–9, 1909.
g. ♀ ad. ,, ,, Dec. 27, 1909.
h, i. ♂ ♀ ad. Santa Rosa, Paraguay. Aug. 14, 1909.
j. ♂. Porto Esperança, Brazil. Sept. 25, 1909.
k. ♂. Near Esquina, N. Argentine. Nov. 14, 1909.

Commonly observed throughout the summer: many remain through the winter months; these being apparently young birds of the previous year.

260. Rhyacophilus solitarius.

Rhyacophilus solitarius Arg. Orn. ii. p. 188.

Helodromas solitarius Sharpe, Cat. B. xxiv. p. 444.

a. ♀ ad. Monte Alto, Paraguay. Aug. 25, 1909.

b. ♀ ad. Porto Esperança, Brazil. Sept. 25, 1909.

c, d, e. ♂ ♀ ad., young. Riacho Paraguay, Mirin, Brazil. Oct. 2–3, 1909.

The adults are in very worn summer dress, and the October bird is commencing to change.

Commonly observed throughout the river-expedition in wet places and on the edges of the lagoons.

261. MICROPALAMA HIMANTOPUS.

Micropalama himantopus Sharpe, Cat. B. xxiv. p. 401.

a, b. ♂ ♀ ad. Los Ynglases, Ajó. Feb. 24, 1909.

c. ♀ ad. Near Esquina, N. Argentine. Nov. 14, 1909.

This little Wader has much the same actions as the Curlew-Sandpiper (*Tringa subarquata*), for which species I at first mistook it. Like that bird it wades deep into the water—in fact, until the water flows over the back of its neck.

262. LIMOSA HUDSONICA.

Limosa hudsonica Sharpe, Cat. B. xxiv. p. 388.

Limosa hæmastica Arg. Orn. ii. p. 191.

a, b, c. ♂ ♀ young. Los Ynglases, Ajó. Nov. 1, 1908.

d. ♀ ad. Cape San Antonio. Dec. 20, 1908.

263. RHYNCHOPS MELANURA.

Rhynchops melanura Arg. Orn. ii. p. 193; Saunders, Cat. B. xxv. p. 156.

a, b. ♂ ♀ ad. Cape San Antonio. Dec. 20, 1908.

c. ♂ ad. Riacho Ancho, N. Argentine. Aug. 1, 1909.

d. ♂ ad. Colonia Risso, Paraguay. Sept. 9, 1909.

e. ♂ nestling. ,, ,, ,, Sept. 9, 1909.

f, g. ♂ ♀ young. Near Puerto Braga, Paraguay. Sept. 24, 1909.

h, i. ♂ young. Colonia Risso, Paraguay. Oct. 26, 1909.

This species was observed in nearly every locality visited, but is apparently only a winter visitor in the Ajó district, as I have not heard of it breeding there. At that season it congregates in flocks of several hundred individuals, and frequents both the coast and inland waters, where it is usually seen hawking over the water with slow regular flight, presenting to my mind a rather ungainly appearance.

It was found breeding on the Rio Paraguay, as I have described under *Phaëthusa magnirostris*. The nest was a mere hollow scraped in the sand, but deeper and larger than that of its neighbour. The full clutch is apparently four, though several nests were taken with three eggs.

Twenty-five eggs brought home were taken on the 9th of September at Colonia Risso.

264. Phaëthusa magnirostris.

Phaëthusa magnirostris Arg. Orn. ii. p. 194; Saunders, Cat. B. xxv. p. 23.

a. ♀ imm. Tayru, Paraguay. Aug. 5, 1909.
b. ♀ ad. Colonia Risso, Paraguay. Sept. 8, 1909.
c, *d*. ♂ ♀ nestling. Colonia Risso, Paraguay. Sept. 9, 1909.
e. ♂ ad. Near Puerto Braga, Paraguay. Sept. 24, 1909.
f, *g*, *h*. ♀ ad. „ „ „ Sept. 24, 1909.
i. ♀ juv. „ „ „ Sept. 24, 1909.
j, *k*, *l*. ♂ ad. Colonia Risso, „ Oct. 26, 1909.

This Tern was very plentiful on both the Paraná and Paraguay Rivers, and was observed as far south as Paraná, but not below.

It was especially common on the Rio Paraguay as far north as we went; and breeding colonies were observed or visited on the 9th, 10th, 24th, and 29th of September, and on the return southwards these were noted or visited again on the 14th and 26th of October.

The first colony was visited on the 9th of September, when this species was found breeding in company with *Rhynchops melanura* and *Sterna superciliaris*.

The Skimmers and Great-bills were nesting together at one end of a long sand-bank and the Terns (*Sterna superciliaris*) were in a small colony of their own at the other end, where there was a little rough grass growing.

When we went ashore the Terns flew right away, the Skimmers flew round and round the bank out over the water in pairs, uttering their single mournful cry; but they were most aggressive, a flock of many hundreds keeping us company, dashing continually past us within a few feet, while their combined cries were so deafening that we could hardly hear each other speak.

The nest is a mere hollow in the open sand, and three eggs seem to be the complete clutch, but many birds lay only two, and quite a number of eggs were scattered about the bank, rotten and often half covered with sand.

There were also a few nestlings of all three species, and on Oct. 26th, when we visited the same bank on the return south, breeding was practically finished, and numbers of young were just on the wing.

At one bank visited on Sept. 24th, fair numbers of both the Terns and the Skimmers were breeding, but only one pair of *Sterna superciliaris*, having two young just flown. A great number of the nesting hollows were empty, and we shortly discovered the reason why, for under a large piece of dry wood we saw and shot a large snake, which, on being cut open, contained one adult and two young of *P. magnirostris*.

Fifty eggs were brought home, taken at Colonia Risso, Sept. 9th, near Puerto Braga, Sept. 24th, and Colonia Risso, Oct. 26th. The majority of these agree with the description given by Mr. Oates in the Catalogue of Eggs, but some have the ground stone-colour, and one set are of a yellowish olive. They also vary greatly in the markings, some are evenly marked all over as described in the Catalogue, others have the greater number of the markings at the larger end, often forming a zone; some are finely spotted and blotched, and these have the markings broad and often of a deeper brown than that described in the Catalogue, *i. e.* of a yellowish brown and pale purple. They measure: axis 1·85 to 2·1 in., diam. 1·4 to 1·5.

265. STERNA MAXIMA.

Sterna maxima Arg. Orn. ii. p. 195; Saunders, Cat. B. xxv. p. 80.

a. ♂ ad. Tuyu, Ajó. Mar. 1, 1910.

This specimen is in full winter plumage. During the week including the 1st of March several of these Terns were seen, sometimes singly and sometimes in pairs, passing along the Atlantic coast, but generally very far out at sea. I had not met with this species in the Ajó district before. It has a very clear shrill cry, which cannot be mistaken.

266. STERNA TRUDEAUII.

Sterna trudeauii Arg. Orn. ii. p. 195; Saunders, Cat. B. xxv. p. 130.

a, b. ♂ ♀ ad.	Los Ynglases, Ajó.	Oct. 27, 1908.
c. ♂ ad.	,, ,,	Nov. 1, 1908
d. ♀ imm.	Luiconia, Ajó.	Feb. 2, 1909.
e. ♂ imm.	Tuyu, ,,	Feb. 21, 1909.
f, g. ♀ imm.	,, ,,	Mar. 1, 1910.

Trudeau's Tern is, I think, the only resident Tern in the Ajó district, where it is quite plentiful, especially on the coast, and flocks of many hundreds can be seen any day. The flight is low and graceful, and the cry a sort of "whew." It is also met with on every lagoon and open sheet of water inland.

267. STERNA SUPERCILIARIS.

Sterna superciliaris Saunders, Cat. B. xxv. p. 124.

a. ♂ ad.	Riacho Ancho, N. Argentine.	Aug. 1, 1909.
b. ♂ ad.	Desaguadero, Paraguay.	Aug. 29, 1909.
c. ♂ ad.	Colonia Risso, ,,	Sept. 9, 1909.
d. ♂ nestling.	Colonia Risso, Paraguay.	Sept. 9, 1909.
e. ♂ young.	Near Puerto Braga, ,,	Sept. 24, 1909.
f. ♂ young.	Colonia Risso, ,,	Oct. 26, 1909.

The adults are in breeding-plumage; that shot on the 29th of August has still a few white feathers on the head, and new black feathers are replacing them.

This little Tern was fairly plentiful throughout the river trip, and was found breeding, as described under *Phaëthusa magnirostris*. As I stated there, it leaves the colony on being disturbed, and I only secured one specimen on Sept. 9th, when we were some time ashore. One or two returned, but flew very high and almost out of shot.

The flight and call reminded me very much of the European Little Tern (*S. minuta*).

The nest was a mere hollow scraped in the sand, generally under the cover of a tuft or of a few blades of grass, and three eggs seems to be the full clutch.

Twenty-five eggs were brought home, taken at Colonia Risso, Paraguay, Sept. 9, and Rio Apa, Sept. 10; many of these agree with the description given in the 'Catalogue of Eggs in the British Museum,' others have the ground stone-colour, some being slightly deeper in tone than others.

268. GELOCHELIDON ANGLICA.

Gelochelidon anglica Saunders, Cat. B. xxv. p. 25.

a, b. ♂ ♀ ad. Luiconia, Ajó. April 29, 1909.

Both specimens are in full winter plumage. In the Ajó district I have only noticed this Tern near the tidal waters, and on the date on which I obtained the two birds I saw many hawking over the creek or sitting on the grassy flats in company with numberless Gulls. I, however, believe that it is only a winter visitor to this district. Both on the wing and sitting it can be distinguished from every other Tern by the black bill, which is very striking. The 29th of April was the first day that I saw it, and afterwards I noted it only near Bella Vista, on the Rio Paraná, when four were observed flying about the river on November 12, 1909 (these had black crowns); while on my second visit to the Ajó district I saw a few in March 1910 in winter dress.

269. LARUS DOMINICANUS.

Larus dominicanus Arg. Orn. ii. p. 197; Saunders, Cat. B. xxv. p. 245.

a. ♂ ad. Cape San Antonio. Dec. 21, 1908.
b. ♂ imm. ,, ,, ,, Dec. 21, 1908.
c. ♂ young. Los Ynglases, Ajó. Mar. 8, 1909.
d. ♂ ad. ,, ,, May 24, 1909.
e. ♀ young. Tuyu, Ajó. Feb. 28, 1910.
f. ♀ imm. ,, ,, Mar. 1, 1910.

This is quite a common Gull in the Ajó district and is resident, breeding, I was told, near Cape San Antonio. In its habits it resembles *L. marinus.*

270. Larus maculipennis.

Larus maculipennis Arg. Orn. ii. p. 198; Saunders, Cat. B. p. 200.

a. ♀ ad.	Los Ynglases,	Ajó.	Sept. 11, 1908.
b. ♂ imm.	„	„	Sept. 11, 1908.
c. ♂ imm.	„	„	Oct. 14, 1908.
d. ♂ ad.	„	„	Jan. 14, 1909.
e. ♂ ad.	„	„	Jan. 27, 1909.
f. ♀ ad.	Luiconia,	„	Feb. 2, 1909.
g. ♂ young.	Los Ynglases,	Ajó.	Feb. 9, 1909.
h. ♀ imm.	„	„	Apr. 3, 1909.
i, j. ♂ ♀ ad.	„	„	Apr. 14–20, 1909.
k. ♂ ad.	„	„	June 11, 1909.
l, m. ♂ ad.	„	„	Dec. 22–23, 1909.
n. ♂ ad.	„	„	Jan. 18, 1910.

This is the commonest Gull in the Ajó district, and is resident; but, owing to the dry seasons, it did not breed in the camp, and I believe repaired to Cape San Antonio for that purpose. It was also observed some way up the Paraná, and I have recorded that several were seen near La Paz, N. Argentine, with completely brown heads, on July 17.

271. Larus cirrhocephalus.

Larus cirrhocephalus Arg. Orn. ii. p. 201; Saunders, Cat. B. xxv. p. 198.

a. ♂ ad.	Los Ynglases,	Ajó.	Mar. 29, 1909.
b. ♀ imm.	„	„	Mar. 29, 1909.
c. ♀ ad.	„	„	Mar. 30, 1909.
d. ♂ ad.	„	„	Mar. 31, 1909.
e, f. ♀ ad.	„	„	Mar. 31, 1909.
g. ♀ imm.	„	„	Apr. 1, 1909.
h. ♂ ad.	„	„	Apr. 10, 1909.

The Grey-headed Gull makes its appearance in the Ajó district after the breeding-season and remains throughout the winter, consorting with *L. maculipennis* in flocks of thousands and feeding largely on the carcases of dead stock. It can be picked out from *L. maculipennis* by its larger size and darker colouring, and the call is also louder and harsher.

272. STERCORARIUS CREPIDATUS.

Stercorarius crepidatus Saunders, Cat. B. xxv. p. 327.

a. ♂ imm. Tuyu, Ajó. Feb. 21, 1909.

This specimen is moulting all over, except the wings. Its occurrence apparently constitutes a new record for Argentina, this species not having, I think, been recorded before south of Rio de Janeiro. It was met with chasing some Gulls on the sea-coast. On Feb. 23, 1910, I saw a very dark-plumaged Skua chasing a Gull on the coast close to where the specimen was shot in the previous year, and on the following day a browner specimen was observed; I have no doubt that both these birds were of this species, but unfortunately I was unable to get a shot at them.

Fam. PODICIPEDIDÆ.

273. ÆCHMOPHORUS MAJOR.

Æchmophorus major Arg. Orn. ii. p. 202; Ogilvie-Grant, Cat. B. xxvi. p. 549.

a, *b*. ♂ ♀. Los Ynglases, Ajó. Oct. 13, 1908.

Both these specimens are in full breeding-dress. This Grebe is not uncommon in the Ajó district, but is a rather wary bird and therefore difficult to shoot. In habits and appearance it resembles the larger European species. It breeds in the district, though I did not succeed in finding a nest.

274. PODICIPES AMERICANUS.

Podiceps americanus Grant, Cat. B. xxvi. p. 524.

Podiceps rollandi Arg. Orn. ii. p. 204.

a. ♂ ad. Los Ynglases, Ajó. Oct. 13, 1908.

b. ♂ ad. ,, ,, May 9, 1909.

This is quite the commonest Grebe in the Ajó district. It is usually seen singly or in pairs on all the waters;

it breeds freely in the locality, but I did not succeed in taking eggs.

275. PODILYMBUS PODICEPS.

Podilymbus podicipes Grant, Cat. B. xxvi. p. 553; Arg. Orn. ii. p. 206.

a. ♀ ad. Los Ynglases, Ajó. Jan. 22, 1909.

This bird is in full winter dress. It is the only specimen of this Grebe that I saw. It was shot on a large open sheet of water.

Fam. TINAMIDÆ.

276. CRYPTURUS UNDULATUS.

Crypturus undulatus Salvad. Cat. B. xxvii. p. 527.

a. ♂. Mortero, Paraguay. Aug. 13, 1909.

This example, apparently an adult, does not altogether agree with the specimens in the British Museum obtained by Prof. Graham Kerr on the Rio Pilcomayo, and by Mr. Foster at Sapucay, respectively. It is nearer to the Rio Pilcomayo specimen, except that the top of the head and the primaries are much paler.

277. CRYPTURUS TATAUPA.

Crypturus tataupa Arg. Orn. ii. p. 208; Salvad. Cat. B. xxvii. p. 525.

a. ♀ ad. Riacho Ancho, Chaco, N. Argentine. July 30, 1909.

This specimen is identical with Mr. Foster's and other specimens from Paraguay. It still retains in the left wing one inner secondary of the immature plumage, but is otherwise quite adult.

278. RHYNCHOTIS RUFESCENS.

Rhynchotis rufescens Arg. Orn. ii. p. 209; Salvad. Cat. B. xxvii. p. 548.

a, b. ♂ ♀ imm. Cape San Antonio. Dec. 17, 18, 1908.

c. ♀ ad. Tuyu, Ajó. May 13, 1909.

d. ♂ ad. Colonia Mihanovitch. Nov. 5, 1909.

In the district of Ajó, this Tinamou is not common, and is now almost entirely confined to the coast-belt. In the north, where it is more abundant, its clear whistling note is often heard.

279. NOTHURA MACULOSA.

Nothura maculosa Arg. Orn. ii. p. 211; Salvad. Cat. B. xxvii. p. 559.

a. ♀ juv. Cape San Antonio. Dec. 20, 1908.

b, c. ♂ imm.; ♀ ad. Los Ynglases, Ajó. Sept. 14, 1908.

d, e. ♂ ad.; ♀ imm. Los Ynglases, Ajó. Jan. 11–19, 1909.

f. ♀ ad.	Los Ynglases, Ajó.		Feb. 17, 1909.
g. ♂ ad.	,,	,,	Mar. 23, 1909.
h, i, j. ♂ imm.	,,	,,	Apr. 21–28, 1909.

k. ♀ ad. Monte Alto, Paraguay. Aug. 25, 1909.

This is a very common bird in the pampas, but not so abundant in the north.

Fam. RHEIDÆ.

280. RHEA AMERICANA.

Rhea americana Salvad. Cat. B. xxvii. p. 578; Arg. Orn. ii. p. 216.

a. ♂ nestling. Luiconia, Ajó. Nov. 19, 1908.

b. ♂ ad. Los Ynglases, Ajó. May 27, 1909.

c. ♂ imm. Los Ynglases, Ajó. May 29, 1909.

d, e. ♂ ♀ imm. (heads only). Los Ynglases, Ajó. May 29, 1909.

The Rhea is almost gone from the Ajó district, but may still be found in the rough country along the coast, where I have seen as many as nineteen together. A few are more or less preserved in many of the estancias.

The nest is usually placed in a thick patch of long grass, and the incubating male usually sits closely, rising with a rush and outspread wings from under the horse's nose.

One nest that I visited contained nineteen newly-hatched chicks and two unfertile eggs, and it was from these that I obtained the nestling specimen.

XVIII.—*Further Notes on the Birds of Southern Cameroon.*—Part I. By G. L. Bates, M.B.O.U. *With Descriptions of the Eggs by* W. R. Ogilvie-Grant, M.B.O.U.

(Plates VII.–IX. and Text-figs. 13 & 14.)

The collection on which these notes are based was made from August 1908 to December 1910, mostly at my place of residence at Bitye, near the western bend of the River Ja (see map, 'Ibis,' 1908, p. 558). But a number of specimens were obtained on two trips further east. One trip—to mention the shorter one first—was made in January 1910 to a place perhaps seventy-five miles down the Ja from Bitye, called Esamesa. Though only a few days were spent on this expedition, two birds that I had not collected elsewhere were obtained, one being *Apalis jacksoni,* hitherto known only in the Lakes-district of Africa. The longer trip occupied part of November and all of December 1908 and part of January 1909. The part of this time not spent on the road was passed at a camp near Assobam, in the Njiem or Zima Country, a place a little to the north of Bizam which is marked on the map referred to. My camp was in a bit of the forest between the village and the small River Bumba, the principal tributary of the Ja.

The number of species of which specimens were collected at Assobam was about a hundred and twenty, and a few more were shot or were plainly seen so as to be known. These include some forms of wide range in Africa, and many West Coast species that had already been found by Emin and others in Central Africa, or later by the Ruwenzori Expedition or by Mr. Douglas Carruthers on the Upper Congo. But they include also forty-one species hitherto known, so far as I can learn, only from the West Coast, the range of which is thus extended 150 miles further into the interior of Africa than before, for Assobam is about that distance east of Bitye. These strictly West Coast species obtained at Assobam are as follows:—

Haplopelia plumbescens.
Calopelia puella.
Guttera plumifera.
Francolinus squamatus.
,, lathami.
Astur toussenellii.
Lophostrix letti.
Turacus persa.
Indicator conirostris.
Verreauxia africana.
Dendromus nivosus.
Lophoceros hartlaubi.
Ortholophus albocristatus.
Fraseria ocreata.
,, cinerascens.
Diaphorophyia chalybea.
Erythrocercus maccallii.
Trochocercus nitens.
Tchitrea rufo-cinerea.
Chaunonotus sabinei.
Malaconotus gabonensis.
Malimbus rubricollis.
Ploceus preussi.
,, cucullatus.
Estrilda atricapilla.
Criniger chloronotus.
Bleda notata.
Phyllostrophus simplex.
Andropadus serinus.
Pycnonotus gabonensis.
Anthreptes fraseri.
Parmoptila woodhousei.
Euprinodes rufogularis.
Macrosphenus concolor.
Camaroptera chloronota.
,, superciliaris.
Neocossyphus poensis.
Turdus saturatus.
Alethe castanea.
,, poliocephala.
Callene cyornithopsis.

The new species discovered on this trip were *Lobotus oriolinus* and *Pedilorhynchus brevirostris*.

The birds mentioned in the following notes consist (1) of species not hitherto reported in the papers by Dr. Sharpe on my collections or in my own notes; these number forty-one (in Parts I. and II. together), and six of them were new; they may be known by the absence of references to 'The Ibis': (2) of species already reported, about which there seemed to be further facts worth noting. The character of the notes here given is very varied, and the term "Field-notes" is not applicable to all of them. Whether the observations in the field will be found disappointing or not I cannot say.

All my work has been done with constant help from the natives; but I have used the greatest caution in trusting to the statements of the natives. All my birds were sexed by myself alone. In speaking of objects and conditions peculiar to the African forest country, it has often been difficult to find suitable English words, and it has been convenient to borrow a few words here from Bulu, my language when in Africa; they have mostly been used in 'The Ibis' before. (Pronounce the vowels as in French.) *Ejak* means a company of birds in the forest (see 'Ibis,' 1905, p. 462); *ékótók*, plural *bikótók*, means old cultivated or cleared land, now abandoned and overgrown thickly with almost impenetrable bushes, vines, tall sedges and grass, and small trees; *éngas* means the swampy border of a stream, overgrown with sedges and weeds; *njak* is the name of an ants' nest hanging in a tree, and also of a suspended termites' (white ants') nest. Names of trees and plants used are:—"aseng," *Musanga smithii*; "abôe," *Alcornea cordata*; "atôndôk," *Haronga* sp.; "ôkông," *Triumfetta* sp.; "ésông," *Panicum maximum.*

Much more is due to Mr. Ogilvie-Grant in this paper than his brief descriptions of the eggs, and I am under great obligations to him. I must also thank the officers and attendants of the "Bird-room" in the Museum for much courteous help.

The arrangement followed is mostly that of Prof. Reichenow's "Vögel Afrikas."

PLOTUS RUFUS. [Ntotôko.]

Anhinga rufa Reichenow, V. A. i. p. 95.

No. 4322. ♂ (testes large). Bitye, July 1910.

This specimen is the only one that I have seen, and it was new to the boy who shot it and to the people of the village. But a man from another village nearer the Ja knew the bird and gave me the Bulu name for it; so probably it is not very rare on the Ja itself. The boy who shot my specimen said that he saw it on a log over the small river near Bitye, with its wings spread out, sunning itself. When shot and wounded it dived into the river out of sight and emerged far away.

PTERONETTA HARTLAUBI. [Alot.]

Bates, Ibis, 1909, p. 6.

Male specimens (Nos. 3661 & 4143) from Cameroon have a *small* white spot on the forehead at the base of the bill, but have not nearly so much white as the birds which Neumann has called *P. h. albifrons* (Bull. B. O. C. xxi. p. 42). All my female examples (Nos. 29, 33, 4142, and 4459) have either no white or a very faint "ticking" of white on the forehead. This white spot is a sexual marking of the male, which is beginning to be acquired by fully adult or old females; it is more developed in birds from the Upper Congo region than in those from the West Coast.

The young, which are marked with four light spots on the back, are caught on or near streams rather frequently. Last November (wet season) a man found a female with nine ducklings on land near his line of dead-fall traps, which were connected by a fence and placed near a stream for catching small animals. He drove the birds along the fence till the mother entered one of the traps and was caught; he also caught five of the young ones and brought them to me. The mother is the skin marked No. 4459. I kept the ducklings alive for several weeks in a little pen of wire netting. They ate cassava and maize meal put in water, and also greedily picked up termites placed on the floor of their pen. The most remarkable thing in their actions was the power of climbing they shewed on the first day. When put into an old keg they soon climbed out, clinging by means of their sharp claws to the rough wood. When I put them into a wire pen they did the same, and it had to be covered over. The first jump from the ground landed the duckling several inches up the wire netting, where it clung with its claws; then another jumping effort, with one foot clinging fast, brought its other foot far above the first station; and so it worked its way to the top. The disposition, and perhaps the power, to climb ceased after a day or two; it seemed to be a special endowment enabling these young ducklings, when hatched in a hollow tree, to reach the opening and escape. [See the account of the young of the Summer-Duck (*Ex sponsa*), J. f. O. 1910, p. 101.]

GLAREOLA MELANOPTERA.

Bates, Ibis, 1909, p. 9.

No. 3919. ♂. No. 4413. ♂. In immature plumage, which is worn and old. These birds were killed at Bitye in September 1909 and 1910; the specimens already recorded ('Ibis,' *l. c.*) were also killed in September, and other birds of this species were seen in that month, in different years.

TOTANUS OCHROPUS. [Amalaka.]

No. 3186. ♀. Assobam, Dec. 1908.

An example of *Totanus hypoleucus* was also killed, at the same place and time; the latter was moulting.

HIMANTORNIS HÆMATOPUS. [Nkulengu.]

Sharpe, Ibis, 1907, p. 421.

No. 4101 was killed in a dead-fall trap placed in the forest, near a stream, for catching small animals.

The wings of this bird were examined when it was freshly killed, and found to be *eutaxic*. Mr. Pycraft has kindly examined another specimen, a dried skin, and found the wing eutaxic. In his article on "The so-called 'Aquincubitalism' in the Bird's Wing" (J. Linn. Soc. xxvii.) the "Ralli" are placed in the list of "large groups every individual member of which, so far as is known, has diastataxic wings" (p. 247).

GALLINULA ANGULATA.

Reichenow, V. A. i. p. 295.

No. 3747. ♀ imm. Bitye, R. Ja, June 1909. Iris yellowish brown; bill dull yellow, blackish on culmen.

This specimen resembles a somewhat younger bird in the British Museum collection, which has the black down still attached to the tips of some of its feathers. Neither of these examples resembles the type of Sclater's *Gallinula pumila* and a number of specimens like it; these seem to be adult females, and not young birds, as Reichenow states *G. pumila* to have been. All have the under side light grey, and the long feathers about the vent, lying among the white under tail-coverts, black, as in the adult male. The young birds have no black vent-feathers, and the underparts are white.

No. 3747 was brought in alive, having been caught in a clearing near a stream.

Podica jacobi.

Reichenow, J. f. O. 1906, p. 325; Bates, Ibis, 1909, p. 8.

No. 4179. ♀ (small ova in ovary). Bitye, April 1910.

This specimen has the wing 150 mm. long, the tail 120 mm., the bill 38 mm. Thus it agrees in size with the description of *P. jacobi*. The specimens sent in previous years (*cf.* 'Ibis,' *l. c.*), even the females, were much larger, though still much smaller than examples of *P. senegalensis*. As I can see no other difference except that of size between the present specimens and those previously sent, I conclude that they are all referable to *P. jacobi*, and that the species has a wide range of variation in size. It may be that these birds continue to grow after they reach maturity, a conjecture supported by the fact that the two largest female birds have black heads. As in *P. senegalensis*, this character is the mark of the fully adult bird; but in the Senegal form it is accompanied by the characteristic grey throat and white line on each side; in *P. jacobi* the whole throat is always white, even in the old black-headed birds. All female specimens, even the oldest, have the white plumage of the breast mottled with dark brown.

The present example (No. 4179) was brought to me alive by a woman who had found it caught in a basket-trap placed in a stream to catch fish. When held in the hand it trembled and uttered a low guttural growl ending in a faint squawk.

Theristicus rarus.

Reichenow, V. A. iii. p. 804; Sharpe, Ibis, 1907, p. 423.

No. 3103. ♀ ad. Length of bill to hinder angle of nostril 112 mm.

No. 4271. ♀ juv. Length of bill to hinder angle of nostril 68 mm.

Both were shot at Bitye, R. Ja.

There is no doubt about the distinctness of this species from *T. olivaceus*, an example of which I procured at Efulen some years ago (*cf.* 'Ibis,' 1904, p. 96).

The immature specimen (No. 4271) shews no marked difference in plumage from the adult; the difference in the length of the bill is, however, remarkable, and so is the difference in the colouring of the naked skin of the head; in the young bird this is uniform dark purplish blue, while in the adult it is black with some light blue spots.

I was informed that the young bird (No. 4271) was one of two individuals which were seen standing on the bank of a stream, and thrusting their bills into the water. No. 1177 ('Ibis,' 1907, p. 423) was likewise said to have been one of a pair seen to fly up into a tree from the bank of the same stream. The stomachs of all contained some worm-like creatures, or bits of shell and perhaps insects, along with a quantity of mud and decaying leaves; and even the intestine of one seemed to be full of mud.

ABDIMIA ABDIMII.

Reichenow, V. A. i. p. 343.

No. 4170. ♀. Bitye, R. Ja, April 18, 1910.

This is the only specimen I have ever met with in Cameroon, and the natives with whom I talked had never seen one. It appeared at the end of the longer dry season, the rains of April were late in beginning last year. That is the period of greatest drought all over Africa north of the equatorial forest-belt, and the Stork had evidently been driven by lack of food to wander so far. Its stomach was full of grasshoppers. It settled in a large clearing that had recently been burned off; and when disturbed did not fly to the surrounding forest, but remained on the cleared land.

NYCTICORAX LEUCONOTUS.

Reichenow, V. A. i. p. 363.

No. 2977. ♂ adult. Stomach full of small crustaceans.

No. 4042. ♂ imm.

Both specimens were obtained at Bitye, the first having been shot, the second caught by the leg in a noose that had been set for ducks, over or in the water. According to the account it must have come into the snare not at night, but about 8 or 9 o'clock in the morning. When alive, and for an hour or two after death, there was a bluish tint or "bloom" on the plumage of the head, which disappeared later. The same peculiarity has been noted in the plumage of other Herons and in a species of Dove.

Vinago calva. [Obeng.]

Sharpe, Ibis, 1907, p. 419.

Nos. 3867, 4390, and 4487 were young birds just able to fly, that were caught and brought in to me, as were also some other individuals like them. They have the head "sap-green" and the feathers of the other upper parts grey with "sap-green" edges.

No. 4389, ♀ adult, had sixteen rectrices; a number of others examined, of both sexes, had fourteen. The wing in this species is diastataxic.

I have records of eight Obeng's nests taken or seen, in every case with one egg only. Three eggs that were preserved measure 32 × 25, 29 × 23, and 28 × 22 mm.

In connection with one of the nests there was a curious circumstance worth recording. This nest was placed in a small *atôndôk* tree at the edge of my clearing. In the morning I saw an Obeng fly off, leaving its one egg lying as if lodged on a few chance dry sticks—the only nest this Pigeon makes. About two hours later I approached the place again, and heard the whistling noise made by the bird's wings in flying off. The little nest was there, but no egg. I searched carefully on the ground and among the bushes under the nest, but, as I found no traces of the egg, can only suppose it was carried off by the bird on being disturbed a second time in one morning.

As to the way in which the egg had been transported, I may add that the bird hardly had time to take the egg in its mouth before it flew. When the Obeng sits, the egg is kept between the feathered feet. It would be possible, I should think, for the bird to carry the egg thus between its feet, without any change of position, when it flew away. It might then easily alight elsewhere on any chance platform of two or three dead twigs sufficient to support the egg, and by a few minutes' work make as good a nest as the one had left.

COLUMBA UNICINCTA. [Afep.]

Sharpe, Ibis, 1904, p. 94; 1907, p. 419.

No. 3309. ♂ (testes large). Assobam, Bumba R., Dec. 1908. Iris and skin around eye red; feet pale bluish-grey; bill pale leaden-blue. Shot on a high limb of a tree over my camp. There were two sitting side by side, almost touching one another, and a sound was heard to come from one of them resembling the distant "booming" of the Prairie-cock. This sound has often been heard in the forest when the bird could not be found, being effectually hidden in the top branches of the trees. These large Pigeons are difficult to kill, and many a shot has been wasted on them.

TURTUR SEMITORQUATUS. [Zum.]

Bates, Ibis, 1909, p. 9.

Streptopelia semitorquata Sharpe, Ibis, 1904, p. 596; 1907, p. 419.

Two specimens examined had the rectrices twelve in number and the wings diastataxic.

Two more nests, each with two eggs and a third with two nestlings, have been found—the single egg mentioned in my previous paper ('Ibis,' *l. c.*) must have been an exceptional case. The eggs vary from 29 to 32 mm. in length and from 23 to 24·5 mm. in width.

TURTURŒNA IRIDITORQUES.

Sharpe, Ibis, 1904, p. 94.

No. 4334. ♂ ad. Nos. 3792, 4292, 4328. ♀ ad. Bitye, R. Ja.

The females differ in plumage considerably from the male, in the manner indicated in Reichenow's descriptions. My male specimen has one marked peculiarity, in that it has the two central rectrices broadly tipped with yellowish-white, like the others, while a specimen from Sierra Leone, agreeing with Reichenow's description and also with Cassin's original description, has these rectrices uniform slaty-grey. The three females, though all adult, differ in the amount of grey on the forehead; this looks as though there is a tendency to attain the colouring of the male with advancing age.

All my specimens are breeding birds. One was from a pair that had a nest in a small *atóndók* tree in the *ékötók*, which was, however, as yet without eggs. The call-notes of this Dove are entirely unlike those of any other species that I have heard in Africa. They strongly reminded me of the notes of the "Mourning Dove" of my boyhood in Illinois, which I suppose was *Zenaidura carolinensis*. They are a series of mournful notes, which begin with some energy and die away.

HAPLOPELIA PLUMBESCENS.

Sharpe, Ibis, 1904, p. 95 (January); Grant, Trans. Zool. Soc. xix. p. 448 (1910).

Haplopelia seimundi Sharpe, Bull. B. O. C. xiv. p. 93 (June, 1904).

? *Aplopelia tessmanni* Reichenow, Orn. Monatsb. 1909, p. 87.

No. 3366. ♂ imm. Assobam, R. Bumba, Jan. 1909.

Nos. 2774 and 4359. ♂ ad. Bitye, R. Ja.

No. 4446. ♀ breeding. Bitye, R. Ja, Oct. 1910.

Iris grey; feet and margin of eyelids red; bill and cere black. Rectrices twelve in number; wing diastataxic.

The adult males are exactly like the type of *H. seimundi*, and agree also with the description of *H. tessmanni*, from a locality near where mine were collected. The immature male, a browner bird with light feather edges, is like the type of *H. plumbescens*, which I got at Efulen. The adult female is quite different from any of the males, being olive-brown on the back and rusty umber-brown on the breast.

This Dove seems always to be found near a stream of water. No. 4416 was caught in a dead-fall trap set near a stream in the forest, as described under *Pteronetta hartlaubi.*

No. 4359, a breeding male, was shot by Nkolo "on its nest," about 3 o'clock in the afternoon, in a bit of forest near a stream between two villages. The nest, which was brought to me with a single egg, was more of a structure than Doves usually make. The base was composed of sticks, some as large as a pencil, and on top were tendrils. The egg is cream-coloured, glossy, and measures 27 × 22 mm.

Calopelia puella. [Odu.]

Sharpe, Ibis, 1904, p. 94.

Calopelia brehmeri Sharpe, Ibis, 1904, pp. 95, 596; 1907, p. 420.

I cannot account for the difference in colour between the metallic wing-spots of different individuals. It does not seem due to age or sex, neither does it seem to indicate that the birds belong to two different species.

This species has twelve rectrices, and the wing is eutaxic.

Though many specimens of this Dove have been killed—mostly caught in snares in the forest—and I have sometimes seen it alive, generally on the ground, it is only lately that I have witnessed it uttering its call-notes, so as to know certainly what sound it makes. The notes I saw and heard it uttering were not distinguishable from those of a *Tympanistria,* and differed from those of *Chalcopelia afra* (see below) only in being stronger and fuller in tone. These three Doves have the same name in Bulu, doubtless because their call-notes are so nearly alike. The name "*Odu*" is not imitative, but rather derived from the word "*du*," which means "crying" or "mourning."

The only nest that I have seen was brought to me along with the female (No. 4499) and two nestlings. This nest consisted of a bed of decaying stems and leaves, with some rootlets on the top, and was not so scanty as the nests of most other Doves. It was found on the horizontal limb of a tree, near the ground, in the forest.

TYMPANISTRIA TYMPANISTRIA. [Odu.]

Sharpe, Ibis, 1904, p. 94; 1905, p. 464; 1907, p. 420.

In this species the rectrices number twelve, and the wing is eutaxic.

This Odu has a call very like that of *Chalcopelia afra*, but uttered in a stronger and more resonant tone. Though the bird is not so often seen as the other species, nests of *Tympanistria* have occasionally been found, while those of *C. afra* have not yet been discovered. One nest I found myself, with the bird on, in some thick tangled bushes at the border of a clearing, just at the height of my head from the ground. It contained one egg, already slightly cracked by the young bird within. After visiting the nest several times, one day I found the nestling with its plumage half-grown, and intended to secure it as a specimen; but when I approached it flew away! A comparison of dates shewed that this squab was able to fly when twelve or thirteen days old.

Nos. 3114 and 3115 are a pair of nestlings taken by a boy from a nest. The outermost primaries already shew the narrowed tips. The feathers of the upper parts of the body, with down still adhering to their tips, are chocolate-brown with light reddish-brown bars; the feathers of the under parts are white or whitish, those of the breast with dark bars.

On two other nests the sitting birds were shot by my boy, who, by aiming at the head, succeeded in killing the birds without breaking the eggs. These nests were very slight, composed of small sticks or rootlets and tendrils. One of the birds (No. 4386) was a female, killed about five o'clock in the afternoon. She had two eggs, measuring 23 × 17 mm. (both the same). The other (No. 4513) was a male, shot on the nest in the forenoon: one egg was broken, the other measured 24 × 18 mm. All three eggs are perfect ovals with but little gloss, and of a deep cream-colour.

CHALCOPELIA AFRA. [Odu.]

Sharpe, Ibis, 1904, p. 94; 1907, p. 420.

No. 1131 is a specimen of a young Dove, looking almost exactly like the young of *Tympanistria tympanistria* (Nos. 3114 and 3115) mentioned above, but the outermost primar is not narrowed ; it is of a lighter brown above, and has les white beneath, so I think it belongs to this species.

This is the commonest Odu and one of the most fearles of birds, coming boldly about villages and on paths to pic up its food, its dull coloration making it often unnotice as it walks on the ground or perches on a decaying log o stick. Its call consists of a succession of notes uttered in very low and feeble tone, begun in a slow and halting manne and afterwards more rapid, as if the poor bird was at firs choked with grief, but became more cheerful as it went on This sound seems to come from far away, though the bir may be sitting, unnoticed, on a twig or log only a few yar off. While in the act of uttering its notes, it keeps its bi pointed downwards and held near its crop.

In this species the rectrices are twelve in number and t wing is eutaxic.

GUTTERA PLUMIFERA. [Mvem.]

Sharpe, Ibis, 1904, p. 94; 1907, p. 418.

Nos. 4162, 4165–6, & 4179, chicks. Bitye, R. Ja, No 1910.

These chicks have two parallel white stripes running dow the sides of the back ; between the stripes the down is blac on the sides of the body outside the stripes it is brown. T head has a complicated but symmetrical pattern of lig yellowish-brown and black stripes. These stripes on t head shew very plainly on the inside of the skin when it turned back ; and especially the black stripe running ba from the forehead, where the crest of the adult would be, seen to be composed of dense down-feathers different fr the rest. Small yellow lappets of skin hang from the ga on either side.

These chicks were kept alive along with some ducklin (see above) for a few days, but died one by one. Their m interesting characteristic was the way in which the feed instinct was excited by imitation. The ducklings paid attention to each other when feeding; but whenever one Guinea-chick pecked at anything the others would run to join it. If one had anything large in its bill, another would seize it and try to pull it away. They would peck at small objects when moving, though indifferent to them when lying still. One would often seize with its bill the wing-tip or toe of a duckling. Their natural food probably consisted of worms or millipedes and such like.

Last August my hunter, Nkolo, shot a Guinea-hen, which on dissection shewed that she had recently laid several eggs. She was sitting on nine eggs, on dry leaves on the ground in the forest; five of the eggs were broken by the shot, but he brought the other four. The eggs are white, but much stained, and the numerous pits in the shell are dark as if from dirt. They are pointed at one end and very blunt at the other. They vary in length from 47·5 to 49 mm., and in width from 37 to 38·5 mm.

POLYBOROIDES TYPICUS.

Ibis, 1904, pp. 98, 596.

This peculiar Bird of Prey lacks the adroitness of movement of the more typical Falconidæ; it mainly seeks food that is not difficult to secure. It continually visits the palm-trees about villages, and seems to have two objects in view: one is to eat palm-nuts, the other to look for nestling Weaver-birds. One individual used to visit the palm-trees near my house on Sunday afternoons, when there were no people about. In a tree that was full of the nests of *Ploceus cucullatus* and *P. nigerrimus*, the Hawk was seen to go from nest to nest, tearing them open with its bill; but it did not find any young birds while I watched it. It was in plain sight, and seemed perfectly aware of its exposed position, for it never made a motion without afterwards raising its head and looking all around, with its crest erected, which gives it a peculiarly fierce appearance. Once, while its head was so raised, it was struck about the eyes by a Weaver-bird; but except when it disturbed a nest, the small birds paid no more attention to it than they would have done to a Hornbill.

When exploring a palm-tree, a *Polyboroides* walks along the branches a great deal, flying only where the frond becomes too slender to support its weight.

ASTUR CASTANILIUS.

Sharpe, Ibis, 1904, pp. 99, 597; 1907, p. 425.

No. 2060. ♂ ad. Bitye, R. Ja, Nov. 1906. Length of wing 155 mm.

No. 4435. ♂ ad. Bitye, R. Ja, Oct. 1910. Iris dark red; feet and cere yellow; bill and claws black (one claw white). Length of wing 155 mm.; tail 140 mm.

These specimens are just like the type in the British Museum (Verreaux Coll.), except that the back of No. 4435 is of a lighter grey colour (that of the type is blackish) and the under tail-coverts are entirely white. In size they agree exactly with the type and with other male specimens I have procured. In the females the length of the wing is 180 to 185 mm. This has already been pointed out by Dr. Sharpe ('Ibis,' 1904, p. 100), but it seems worth while to mention it again, because the range of measurements given by Reichenow appears to be incorrect.

No. 2060 was caught in a snare in the following manner:—A small bird that had been snared on an *atóndók*-tree had been partly eaten by the Hawk when found by the boys who were snaring birds. The boys left the small bird hanging and fixed a noose to catch the Hawk when it returned to complete its meal.

ASTUR TOUSSENELII.

Sharpe, Ibis, 1904, pp. 100, 597; 1907, p. 425.

No. 4299, ♀ ad. Bitye, R. Ja, July 1910. Iris orange; feet yellow; cere and skin about eye yellow to orange; bill black, grey at base. Length of wing 225 mm.

No. 3268, ♂ imm. Assobam, Bumba R., Dec. 1908. Iris light yellow; bill black, bluish at base; cere, skin around the eye, and feet pale yellow; claws black. Length of wing 193 mm.

The length of wing in the type specimen (Verreaux Coll.) is 198 mm.

My adult specimen is a lighter-coloured bird than any in the British Museum, both above and beneath, and has only a very few faint bars on some of the breast-feathers: doubtless it is an old bird. The difference between this species and *A. castanilius*, both in size and in colouring, is very marked. *A. toussenelii* is a lighter grey bird, when adult, than the other, besides differing conspicuously in the colouring of the under parts.

No. 4299 was said by Nkolo, who shot it, to have been watching the little birds which had gathered to feed about an army of driver-ants. As its crop contained a recently eaten frog, it is probable that its object was not so much to catch little birds as to secure the frogs that the drivers routed out of their hiding-places.

No. 3268 had an old palm-stalk arrow, or part of one, sticking in its forehead near the left eye, so that when the boy who shot it saw it on the perch it looked as if it had a horn. The eye, which had been pierced by the arrow, had shrivelled up, and the wound had healed. The bird was somewhat fat, even though it had long been wounded and carried an arrow in its head.

BAZA CUCULOIDES.

Reichenow, V. A. i. p. 618.

No. 2235. ♂ ad. Bitye, R. Ja, Feb. 1907. Stomach full of grasshoppers, beetles, white grubs, &c. Shot in the forest.

No. 3624. ♀ imm. Bitye, R. Ja, April 1909. Stomach contained sixteen undigested grasshoppers. Iris, feet, and cere yellow; bill and claws black.

FALCO SUBBUTEO.

Reichenow, V. A. i. p. 628.

No. 3134. ♀ imm. Bitye, R. Ja, Oct. 19, 1908.

This example, the only one that I have seen, had the plumage much worn, with the exception of two wing-quills on one side and one on the other, which looked new. It was brought in alive and unhurt by a man who said that he

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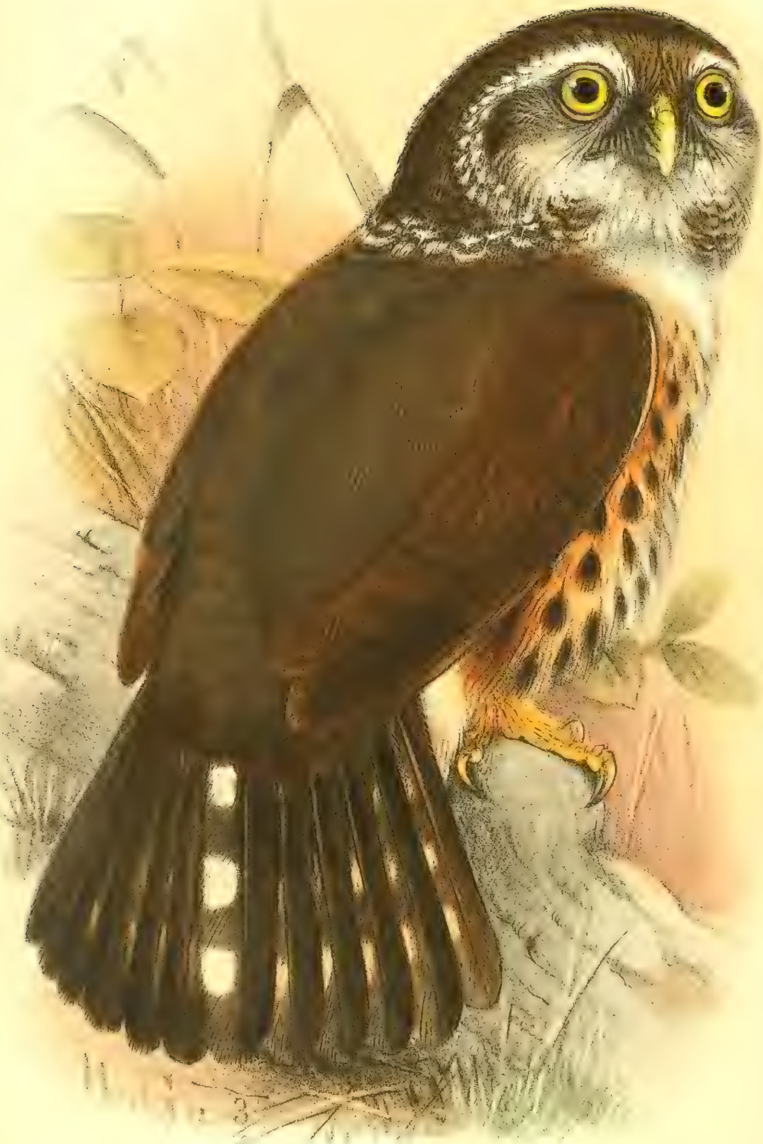


[illegible] West, Newman imp.

GLAUCIDIUM PYCRAFTI ♂

caught it with his hands, as it was trying to fly off with a fowl that was too heavy for it.

Loprostrix letti.

Reichenow, V. A. i. p. 663.

Scops letti Sharpe, Ibis, 1904, pp. 104, 604; 1907, p. 427.

No. 3291. ♂ ad. Assobam, Dec. 1908.

No. 3292. ♀ young. ,, ,,

These two examples were killed at one shot; there were three sitting on a limb together. The old bird had in its stomach the hard parts of brightly-coloured beetles.

Not only is the colour of the plumage of the young one very different from that of the adult, being of a pale rust-colour with white edges to the feathers, and about the face entirely white; but the colour of the iris is bright yellow, while in the adult it is brownish-yellow. The white face and yellow eyes would help to make the young Owl visible in the darkness of a hollow tree.

The plumage of this young Owl is remarkable on account of its structure as well as its colour. It is a "mesoptyle" plumage, the feathers being somewhat downy, yet having shafts, and bearing on their tips many of the first down-feathers, as in the illustration of "mesoptyle feather of Tawny Owl" in Pycraft's 'History of Birds,' p. 270. Mr. Pycraft has pointed out to me a further peculiarity, in that the rectrices, which belong to the "teleoptyle," or final plumage, bear, each on its tip, a *mesoptyle* tail-feather.

Glaucidium pycrafti. (Plate VII.)

Glaucidium pycrafti Bates, Bull. B. O. C. vol. xxvii. p. 85.

No. 4153. ♂. Bitye, R. Ja, March 26, 1910.

Adult male. Head dark greyish-brown; back and upper surface of the wings dark umber-brown; feathers of the nape and sides of the neck each with a broad white subterminal bar, together forming a white-spotted collar; lores and a short superciliary stripe white. Quills blackish, with umber-brown bars extending across both webs and becoming whitish-buff towards the margins of the inner webs; the outermost primary shorter than any of the others. Tail-feathers dark brownish-black, the middle pair with three and the outer pairs with five large, rounded, white spots on the inner web only. Throat, middle of the chest, and under tail-coverts white; sides of the chest and flanks brown mixed with whitish-buff; middle of the chest, breast, and belly whitish-buff, each feather with a large, terminal, round or oval spot of dark brown; under wing-coverts pale buff. Iris bright yellow; bill dull yellow; feet yellow, claws yellow with black tips. Culmen ca. 12 mm.; wing 105; tail 70; tarsus about 20.

This type-specimen is the only one that I have seen. It was shot by Nkolo, who discovered it through the noise made by other small birds mobbing it as it sat hidden in a thicket.

Agapornis pullaria. [Kô-nkaé.]

Sharpe, Ibis, 1904, p. 605; 1907, p. 428; Bates, Ibis, 1905, p. 89.

One of the prettiest sights I ever recollect was five or six Kô-nkaé flying up from a little stream where they had been bathing, the blue of the rump-feathers shewing very conspicuously.

No. 4318, ♀, was shot by my boy as it came out of a hole in an ants' nest (*njak*) high up in an *aseng* tree, near the village. I went to see the place, and the boy climbed up and begun to chop the *njak*, which was hard and earthy and firmly attached to the large tree-stem—a different kind of *njak* from the one in which a Woodpecker's nest was found (*cf.* 'Ibis,' 1909, p. 20). The big ants inhabiting the *njak* bit him so cruelly that he had to come down. The tree was then chopped down; but the hole in the *njak* was found empty. I suppose the hole had been excavated by these birds; the mate of the one killed was seen in the tree-tops near by. How do they endure the ants? They must work so gently that the ants are not disturbed. These fierce ants would be an excellent defence for the birds against robbers of their nest.

The ova and oviduct were not yet enlarged in this example. These most loving birds must keep house together long before they rear their brood.

Agapornis zenkeri. [Emolé.]

Sharpe, Ibis, 1904, p. 605; Bates, Ibis, 1905, p. 89.

Nos. 4282, 4285–6, 4289, 4290; all males with testes much enlarged. The stomachs contained the little fig-like fruits of the *étóp* tree. Irides yellow; feet greenish-grey; bills slaty-black.

The five specimens enumerated above were shot with bows and arrows on three successive days, together with some others that were damaged, in a certain *étóp* tree, a small kind of fig, the bark of which formerly furnished the bark-cloth of the people. The little Parrots had gathered to feed there, along with the common species, *A. pullaria.* It is curious that there were no females among the birds that were killed, as this was not the case with *A. pullaria.*

Agapornis zenkeri seems to be found only where the two species collect to feed in such wild fruit trees as that mentioned. The name *Kó-nkaé,* meaning "Grass-Parrot," is not given to this species and would not be appropriate.

Corythæola cristata. [Kunduk.]

Bates, Ibis, 1905, p. 91.

Nos. 4098, 4387. Both ♂. Bitye, R. Ja.

No. 4395. ♀. Bitye, R. Ja; two empty sheaths of ova in ovary and no third found.

On the 19th of last August a man brought me an egg that he said was that of a Kunduk—he saw the pair of birds fly out of a low *akak* tree (*Grewia*) along a forest path. By getting up on a stump he could bend down the twigs and reach the nest. I kept the egg, and a few days later had an opportunity of verifying the man's statement; for a female bird, No. 4395 (see above), was brought in with bits of egg-shell sticking to the feathers of its breast, where there were shot-wounds, the bird having been killed by my hunter Nkolo on its nest. These bits of shell were exactly like the egg the man had brought, and both were so peculiar that they must have belonged to the same species. Nkolo shot this bird on its nest high up in a tree, and from the accounts given by others the Kunduk seems usually to build high.

The egg mentioned above is a short and perfectly oval in shape and measures 50×43·5 mm. It is pale green or greenish-white, and has, like the bits of broken shell mentioned above, a very peculiar surface, being glossy and smooth, with the exception of scattered minute bosses, or pimple-like projections, all over the surface.

Turacus meriani. [Mba.]

Sharpe, Ibis, 1904, p. 613; 1907, p. 435.

No. 4067. ♂ ad. Bitye, R. Ja, Dec. 1909.

The occurrence of this specimen at Bitye shews that there is not such a sharply defined boundary as I had supposed between this coast species and *T. persa*, the common one at Bitye (*cf.* 'Ibis,' 1909, p. 13).

Turacus persa. [Mba.]

Turacus persa persa Neumann, Nov. Zool. xv. p. 374 (1908).

Turacus zenkeri Sharpe, Ibis, 1907, p. 435; 1909, p. 13.

The distinguishing character of Reichenow's species *T. zenkeri*, viz., the width of the white line under the eye, is said by Neumann to be of no value.

I have watched half-a-dozen "Bemba" of this species, on the edge of the forest near Bitye, chasing one another, and playing and "cawing" in the tree-tops. Two of them alighted on a limb and performed some curious antics. Sometimes they would touch bills, as if kissing; sometimes one would touch the plumage of the other with its bill. Then one of the pair would run away from its mate, along the limb, then turn and run back; and when they met, they would again touch bills. While they were going through this performance their crests were flattened back, not erected as they usually are.

Additional eggs have been brought, in two cases with the sitting birds shot on the nest; in another instance with the statement by the bringer that he saw the Mba fly off. All these eggs resemble the two described ('Ibis,' 1909, p. 13) except in shape. The egg that was brought in without the bird measures 35·5×34·5 mm.; a single fresh egg (another would doubtless have been laid) brought with the bird measures 34·5 × 32 mm.; two eggs brought with another bird measure 37 × 34 and 36 × 34 mm. Thus all these eggs were nearly spherical.

One sitting Mba brought with eggs proved to be a male, and was shot at midday; the other, a female, was shot at evening. Another male Mba, shot on the nest about noon, was brought in along with a broken egg.

Coccystes jacobinus.

Reichenow, V. A. ii. p. 78.

No. 4537. ♂ (testes small). Bitye, Dec. 16, 1910.

This is the first specimen that I have obtained. It was shot on a papaw near my house, where it perched without fear. It had the appearance of a sick or starved bird; its stomach was full of a very common kind of grasshopper, which, from their disagreeable smell (and taste, too, I presume), no bird of the country will touch.

Coccystes glandarius.

Reichenow, V. A. ii. p. 81.

No. 4559. ♂ (testes very small). Bitye, Jan. 2, 1911.

Curiously enough, an example of a second species of *Coccystes*, a straggler in the country, was shot a couple of weeks after the specimen of *C. jacobinus* mentioned above, and in the same way. It was seen boldly sitting on a palm-frond not far from my house. Its stomach was full of the same disagreeable kind of grasshoppers as the other, though No. 4559 had not been reduced to such food by starvation, for it was fat. Perhaps these stranger birds are unable to compete with the regular inhabitants of the chase as regards tempting food.

Pachycoccyx validus.

Sharpe, Ibis, 1907, p. 435.

No. 4220. ♂ imm. Bitye, R. Ja, June 18, 1910. Iris dark brown; bill black above, light beneath; eyelids and feet yellow.

This is the second specimen of this rare species that has been brought to me; like the first, it had been killed in the forest by a native. In both cases I have recorded the contents of the stomach; these consisted of insects of many different kinds, but there were no caterpillars, or caterpillar-hairs sticking to the lining of the stomach. The last bird, while having white spots in the plumage, was not very young, and must have caught these insects itself.

CUCULUS CANORUS.

Reichenow, V. A. ii. p. 89.

No. 3623. ♀ somewhat imm. Bitye, Apr. 22, 1909.

No. 4453. ♀ young. Bitye, Oct. 29, 1910.

CUCULUS SOLITARIUS.

Sharpe, Ibis, 1904, p. 613; 1907, p. 435.

No. 4330. ♂ ad. No. 3816. ♀ ad. Bitye, R. Ja.

Nos. 3921, 4024, young; 4216, young, with the plumage not grown.

These three young birds, with one like them, No. 1139, identified by Sharpe as *C. gabonensis* ('Ibis,' 1907, p. 436), I believe to be the young of *C. solitarius*, mainly because they are not at all like the young of *C. gabonensis* described below. Moreover, younger birds of *C. solitarius* collected by the Ruwenzori Expedition (*cf.* Grant, Trans. Zool. Soc. xix. p. 424) seem to have resembled them, and so does a specimen in the British Museum from Fantee. They have white edges on all the black feathers and a white spot on the back of the head; thus agreeing exactly with Reichenow's description of the young of *C. gabonensis*, which, as will appear below, they cannot be. I can only suppose that, like Sharpe, Reichenow has mistaken for that species the young of *C. solitarius*, especially as he seems to suppose that the latter species is not found in Cameroon.

Nos. 3921, 4024, and 4216 have the feet yellow; No. 4216, a very young bird, had the inside of the mouth and the tongue uniform deep orange.

CUCULUS GABONENSIS. (Text-fig. 13.)

Sharpe, Ibis, 1907, p. 436.

Cuculus clamosus Sharpe, Ibis, 1904, p. 614.

Cuculus aurivillii Sjöstedt, K. Sv. Vet.-Akad. Handl. xxvii. p. 47 (1895).

I have a series of eight specimens, all collected at Bitye except one, which was shot at a place further down the Ja. These shew all gradations from (1) a perfectly black first plumage (Nos. 3898 and 3904); through (2) a moulting transitional state, in which some of the chestnut feathers of the throat and chest and some of the barred feathers of the under parts are appearing among the black ones (Nos. 3044 and 3141); and (3) a nearly adult plumage with some dark bars on the throat (Nos. 4411, 4091, and 3616); to (4) the fully adult plumage (No. 4291). The specimen that Sharpe called *Cuculus clamosus* ('Ibis,' *l. c. suprà*) is just like No. 3141. None of these birds have white-edged feathers. The feet are whitish, becoming yellowish only in older examples. The first two mentioned above, in which the plumage is not grown, have the upper surface of the tail perfectly black

Text-fig. 13.

Ends of the middle pair of rectrices of *Cuculus gabonensis.*

and the under surface with faint whitish feather-tips, which tend to disappear in somewhat older birds. A nearly adult bird of this species with perfectly black tail was evidently the bird described by Sjöstedt as *C. aurivillii*. No. 4091 was moulting the tail, having five old and worn rectrices and five new ones, some not grown. The new ones have white tips, and spots or bars, as in the adult, the old ones have no white.

In connection with the tail of specimen No. 4091 may be noted also the curious fact that the old feathers are much longer and more pointed than the new. The figure (text-fig. 13, p. 501) represents the middle pair of rectrices, one new, the other old, drawn to exact size. The shorter new feather seems to me fully grown; but even if it were not, the difference in shape is remarkable. I have noticed in other Cuckoos and in many other widely different birds the fact that the rectrices are both longer and more pointed in the young than in the adult plumage.

One more thing remains to be told about the youngest of these specimens of ?*Cuculus gabonensis*, No. 3898. It was brought in by a man who called it a young *akótoo* (*Laniarius leucorhynchus*); he had shot it with his bow and arrow in company with its "parents." I told him I wanted the parents, and soon a *Laniarius leucorhynchus* was brought; he said he had found it still crying for its child. The way in which this was told seemed to make it improbable that there was any deception. Moreover, the same kind of food was found in the stomach of the "parent" Bush-Shrike as in that of the young Cuckoo.

CHRYSOCOCCYX FLAVIGULARIS.

Sharpe, Ibis, 1907, p. 437.

No. 3263. ♀ (ova, oviduct enlarged). Assobam, Dec. 1908.

This is the second specimen, and the first female example, I have obtained of this rare Golden Cuckoo. When the first, a male, was shot by my boy at Bitye five years ago, I was close by on a forest path, and heard the bird's loud clear call, resembling that of its congeners.

INDICATOR MACULATUS.

Sharpe, Ibis, 1907, p. 440.

No. 4201. ♂. Bitye, June 1910. Iris dark brown; bill blackish; feet dull yellow and grey. Nostrils of a long-oval shape, with a raised rim.

In this specimen the small feathers of the forehead, and especially those of the sides of the head, are margined with yellowish white, making those parts appear streaked. The specimen previously reported also had this character, but in a less degree; while neither the type-specimen nor Gray's plate shew it at all. Reichenow mentions it only as regards the forehead. Probably these whitish streaks are a mark of the fully adult bird, like the streaks on the throat of *Trachylæmus purpuratus*.

INDICATOR STICTOTHORAX.

Sharpe, Ibis, 1907, p. 440; Bates, Ibis, 1909, p. 15.

No. 4272. ♀ (not breeding). Bitye, July 1910.

My previous specimens were obtained in the forest near the coast. This is a very different bird from *I. maculatus*.

INDICATOR CONIROSTRIS.

Sharpe, Ibis, 1904, p. 616; 1907, p. 440; Bates, Ibis, 1909, p. 16.

Another nestling *Indicator*, probably *I. conirostris*, has been found in the hole of a Barbet, this time *Barbatula leucolæma*. The old Barbet was caught in the hole with it, but there was no other nestling. The hole had the entrance just the size of an average finger-ring, and much too small to admit a grown Honey-Guide of this species. The egg may, of course, have been carried and dropped into the hole by the bird with its bill. It is a harder problem to explain how the young Honey-Guide could ever have got out of the hole if it had remained till it grew larger.

This nestling *Indicator* had the openings of the eyes very small. It had sharp-pointed tubercles on the heels; the skin of the nestling No. 2116, already mentioned ('Ibis,' 1909, p. 16) also shews these tubercles.

Two adult female specimens that were found to be just ready to lay were shot in the neighbourhood of dead trees containing the holes of Barbets (*Gymnobucco*), and seemed to be led to the spot by the instinct which makes them seek such a place to deposit their eggs. One had in the oviduct a crushed egg with complete shell; the bits of egg-shell were pure white, without gloss, and were not very thin.

MELIGNOMON ZENKERI.

Reichenow, V. A. ii. p. 113; Bates, Ibis, 1909, p. 17.

No. 3705. ♂. Bitye, R. Ja, June 1, 1909.

No. 4073. ♀ breeding. Esamesa, R. Ja, Jan. 1910.

Both had the iris brown; bill dark horny, yellowish at the base beneath and at the gape; feet dull yellow. Nostrils with a long-elliptical raised rim.

PRODOTISCUS INSIGNIS.

Reichenow, V. A. ii. p. 115.

Hetærodes insignis Cassin, Proc. Ac. Sc. Philad. 1856, p. 157; 1859, p. 142, figure.

Indicator emini Shelley, P. Z. S. 1888, p. 43.

No. 4093. ♀ ad. Bitye, R. Ja, Feb. 11, 1910. Iris dark brown; bill black; feet slate-coloured.

No. 4076. ♀ yg. Esamesa, R. Ja, Jan. 29, 1910. Iris brown; bill above dark at base, whitish at tip, beneath yellowish; feet grey.

My specimens are exactly like the type of Shelley's *Indicator emini*, which, as pointed out in a MS. note with that specimen, written by Neumann, differs in some slight particulars from Cassin's description of specimens from the Gaboon region. If there are two subspecies or geographical races, my specimens belong to that found by Emin on the eastern border of the Congo Basin, and not to that found near Gaboon.

The young bird (No. 4076) is nearly like the adult, but has a darker and less yellowish plumage.

The skins of these birds were not especially tough, like the skins of *Indicator*. The food of the young one had been small Orthoptera, probably given it by a foster-parent.

MELICHNEUSTES ROBUSTUS.

Melignomon robustus Bates, Bull. B. O. C. xxv. p. 26 (1909).

The type specimen is the only example I have seen of this new Honey-Guide. But another species has been described by Reichenow (Orn. Monatsb. 1910, p. 160), which seems to resemble mine except in colour, and has been made the type of a new genus, *Melichneustes*, distinguished by the form of the tail, which I pointed out (Bull. B. O. C. *l. c.*). This last species, *M. sommerfeldi*, was found in the region of the Dume River, not very far distant, to the north-east, from where I have collected. It is remarkable how many new forms of Indicatoridæ, rare and retiring forest-birds, West Africa has yielded.

My specimen of *M. robustus* was shot with bow and arrow. It had in the stomach small flakes of wax, and, like other Honey-Guides, had a very tough skin.

LYBIUS BIDENTATUS. [Ekuku.]

Sharpe, Ibis, 1904, p. 616; 1905, p. 466.

Nos. 4381 and 4382 (♂ & ♀) were a pair caught, with four young, in their hole in the tall dead stump of an *aseng* tree with dry corky wood. The hole was at about a man's height above the ground. The entrance had been about two inches in diameter (it had been chopped larger when I saw it, to admit the man's hand in removing the birds); and the excavation ran down a foot and a half. At the bottom there were a number of decomposing portions of insects which had passed through the bodies of the birds and had an extremely offensive smell. The birds had been stopped up in their hole by a man who saw them both enter, about 8 or 9 o'clock in the morning. The food found in the stomachs of the nestlings consisted of insects, part of a large Cetonid beetle being among them. The adults of this species feed mainly on fruits. The eyes of the nestlings were very small. Both these nestlings, and some nearly full-grown young birds obtained at another time, had a heel-pad of sharp-pointed tubercles.

Another pair of old birds of this species, caught together in a hole in exactly the same way, had neither young nor eggs, and dissection shewed that the female had not yet begun to lay.

GYMNOBUCCO PELI. [Ovôl.]

Sharpe, Ibis, 1904, p. 616; 1907, p. 441; Bates, Ibis, 1909, p. 17.

Nos. 3876–8 were two nearly fully feathered nestlings and one old bird, which were caught in holes in dead trees that had been stopped up with the birds in, together with a number of other nestlings. The nestlings have the nasal tufts well developed; the head is not bare as in adults, but covered with short feathers, and the bill is of a yellowish horn-colour. They have sharp tubercles on the heels.

BARBATULA FLAVISQUAMATA. [Omvek.]

Sharpe, Ibis, 1904, p. 618; 1907, p. 442.

All my numerous specimens have dark mottlings on the breast, a character which serves as one of the distinguishing marks of this species from the nearly allied *B. stellata* and *B. scolopacea.* The colour of the iris is creamy or greyish-white.

Two breeding-holes of this species have now been found, the birds, in each case, having been caught in them. It is unnecessary to describe these holes, as those of all species of *Barbatula* are alike, and the description given ('Ibis,' 1909, p. 18) will serve for all. In one of the two holes of *B. flavosquamata* four adult birds were caught, two males and two females. Judging from the condition of the females, the eggs found must all have belonged to one pair of birds, and the other pair were intruders. Four eggs were reported to have been found in the hole, but only one was received intact; it measured 17 × 13·5 mm. Two eggs brought in at another time, in a section of a dead stump, along with the bird, measured 18·5 × 14·5 and 18·5 × 14 mm.

BARBATULA ERYTHRONOTA. [Omvek.]

Reich. V. A. ii. p. 146.

No. 3451. ♀ breeding. Bitye, R. Ja, Feb. 1909.
No. 4360. ♂ „ „ „ Aug. 1910.

This is the most beautiful of the small Barbets and is not common, for the two specimens mentioned above are the only ones that I have procured. The first was brought alive, imprisoned in its nesting-hole in a section of a small soft-wood stump. This hole was exactly like those of other small Barbets, and contained, besides the female bird, two nestlings.

BARBATULA LEUCOLÆMA. [Omvek.]

Sharpe, Ibis, 1904, p. 617; 1907, p. 442; Bates, Ibis, 1909, p. 18.

I have recently procured a number of these Barbets caught in their breeding-holes, which were like those already described ('Ibis,' 1909, p. 18) and are common in the tall stumps left in clearings. Such birds are not always actually breeding, though many of the holes contained eggs or nestlings. These are to be found during most months of the year, thus hardly confirming my first conclusion that the small Barbets prefer the dry seasons for breeding.

The nestlings were generally two in number, but once three were found in one hole. They all had sharp-pointed tubercles on the back of the tarsal joint.

When eggs were found, they generally numbered two; in one instance three. These eggs vary in length from 15 to 18 mm., and in width from 12 to 13 mm.; otherwise they are as already described.

BARBATULA SUBSULPHUREA. [Omvek.]

Sharpe, Ibis, 1904, p. 617; 1907, p. 441; Bates, Ibis, 1909, p. 18.

A few nesting-holes of this species have been found, and are exactly like those of *B. leucolæma*, being placed in similar situations. One contained two broken eggs when it reached me, and two young birds were found in each of the others. These had heel-pads, similar to those described above.

One nesting-hole containing young was clean inside, and I think this was true of all the holes of *Barbatula*, which are thus very different from those of *Lybius bidentatus* (*vide suprà*, p. 505).

Two nearly fledged young of *B. subsulphurea* that had been taken from a hole, when liberated remained near the house, making a continual tinkling noise, much like the call of the adult birds. These nestlings were expressing distress or hunger by the same sound that is used by the species as a mating call.

Trachylæmus purpuratus. [Ekuku.]

Sharpe, Ibis, 1904, p. 618; 1907, p. 442; Bates, Ibis, 1905, p. 93.

No. 4401, together with a single nestling, was taken from a hole in a tree. The young bird had the eyes very small and apparently functionless: it was furnished with heel-pads.

In the ovary of No. 4396 three or four empty ovum-sheaths were found. It was caught in its nesting-hole, which contained four eggs, one fresh and the others nearly so. These eggs, which are pure white and somewhat glossy, measure respectively 29·5 × 19·5, 29 × 20·5, 28·5 × 19·5, and 29 × 18 mm.

Dendromus caroli.

Sharpe, Ibis, 1904, p. 619; 1907, p. 443.

No. 3352 was shot, at Assobam, as it was coming out of its nesting-hole; it was a male with large breeding-organs. Two eggs brought in were said to have been taken from the same hole. They have the "Woodpecker"-gloss and whiteness, but are stained. They measure 26 × 19 mm.

No. 3357, also shot at Assobam, was a female with an egg in her oviduct. The condition of her ovary afforded evidence that two other eggs had already been laid, and there were large ova, one or more of which would perhaps have become mature eggs; making a total of, at least, four eggs.

No. 4087, a half-fledged young bird, was one of a pair caught in a hole in a tree. The plumage differs from that of adults in that the light spots of the under parts are white.

Both the breeding birds mentioned above were killed in January, and the young one in February. These are the driest months of the year.

DENDROMUS NIVOSUS.

Sharpe, Ibis, 1904, p. 619; 1907, p. 443.

Dendromus efulensis Chubb, Bull. B. O. C. xxi. p. 92; Bates, Ibis, 1909, p. 20.

Among a considerable number of these birds some have the backs as golden in tint as specimens from the Gold Coast.

Three more nests, or rather breeding-holes, of this species have now been brought to me, in every case accompanied by the bird that had been caught in the hole; only one of these birds was a female, two were males. These holes were all cavities in the globular pendant nests of termites, which are huge balls, earthy and heavy, of the size and shape of a football, constructed around the slender stems of certain shrubs and vines. The situation of these breeding-holes thus resembled that of the hole of the same species formerly described ('Ibis,' 1909, p. 20); but that was in a light and papery ants' (not termites') nest. The structure in which the hole of *Agapornis pullaria* was found (see notes on that bird, p. 496) was yet another kind of ants' nest.

In each of the three more recent holes of this Woodpecker were two eggs, pure white, with thin glossy shells, measuring—(1) 25 × 16 and 22·5 × 16 mm.; (2) 21 × 16·5 and 21 × 17·5 mm.; (3) 23 × 16 and 22 × 16·5 mm.

The months in which these eggs were found were April, June, and December; those mentioned in the former paper were found in January. These months belong to the dry season, and to the less rainy of the two rainy seasons.

DENDROMUS PERMISTUS.

Sharpe, Ibis, 1904, p. 619; 1907, p. 443.

No. 4071, a young bird with the feathers not quite grown, differs markedly from adults in the plumage of the head.

This is black above, but, instead of the small round yellow spots or dots on the crown of the adult female, there are very small whitish shaft-streaks to the black feathers of the crown. The throat is white with narrow black bars.

COLIUS NIGRICOLLIS.

Reich. V. A. ii. p. 203.

Colius nigriscapalis Sharpe, Ibis, 1907, p. 434; Bates, Ibis, 1909, p. 21.

Many nests, containing nestlings or eggs, have now been found. These have been confined, so far, to the months of March and April and from August to November. In several cases the sitting bird killed or caught on the nest proved to be a male.

The nestling has the inside of the mouth slaty-black and the tongue yellow, so that when the mouth is open the tongue is very conspicuous. The number of cubital remiges in several nestlings was at least nine (it was uncertain whether another one was a quill or a covert). The number in *Colius affinis* was found by Mr. Pycraft ('Ibis,' 1907, p. 233) to be eight.

EURYSTOMUS NEGLECTUS. [Kamang.]

Eurystomus gularis neglectus Neumann, Orn. Monatsb. 1908, p. 28.

Eurystomus gularis Sharpe, Ibis, 1904, p. 606.

Nos. 2240, 2946. Both ♀. Bitye, R. Ja.

Nos. 3262, ♀, & 3226, sex? Assobam, Bumba R.

Neumann describes several well-marked characters in which this species differs from typical *E. gularis*, and these are all to be seen in my birds except as regards the blue colour on the basal part of the middle tail-feathers; this is well-marked in only one of them, No. 3226, which may have been a male; in the others those feathers shew only a bluish tinge when held in a certain position.

This is a forest species, while *E. afer* is a bird of open country; the latter has been found at Bitye ('Ibis,' 1907, p. 428) in a district where there is much cultivated or old cleared land, but not at Efulen or at Assobam, both situated in country that is almost all forest.

"Kamangs" are fearless and perch in conspicuous places. At Bitye a pair of them, that probably had a nest in some high dead limb near by, used to be heard continually and seen chasing the Kites over the village farms.

BYCANISTES SUBQUADRATUS. [Miam.]

Cabanis, Jour. f. Orn. 1880, p. 350; Grant, Trans. Zool. Soc. xix. p. 431.

Nos. 4119, 4152, 4421. All ♂, adult. Bitye, R. Ja. Length of wings 320–350 mm.

Nos. 4211, 4408 & 4422. All ♀, adult. Bitye, R. Ja. Length of wings 300–315 mm.

Iris reddish-brown; bill black, with a dirty white spot in the middle on the casque; feet black, but the soles grey. The measurements of these specimens shew a bird hardly as large as *B. albotibialis*; but otherwise they agree perfectly with the original figure and description of *B. subquadratus*.

This Miam seems to be as plentiful at Bitye as the other (*B. albotibialis*), or more so. The pair, Nos. 4421 & 4422, were brought down at one shot by my boy; there were four or five of them early one morning in a small tree in the *ékótók*, not far from my house. The tree was not a fruit-tree and the birds were not feeding, but calling and chasing each other.

This species makes quite a different call from *B. albotibialis*.

BYCANISTES ALBO-TIBIALIS. [Miam.]

Bates, Ibis, 1905, p. 90; Sharpe, Ibis, 1907, p. 430.

The only specimen I need mention is No. 4557, a young male: irides whitish-grey; bill of a uniform pale horn-colour; feet brown and grey. The bill has no casque, though the base of the upper mandible is greatly elevated above the forehead; the bill is short (culmen 110 mm.) and smooth. A few of the feathers above the eye are grey or have grey margins. The plumage is otherwise like that of the adults.

The young Miam above described was kept alive, at Bitye, for a month. It had been caught by a native woman who was working in her clearing, and seemed to be weakly and unable to fly, though apparently unhurt. In the choice of its food this bird acted as if guided by a sense of smell; for it at once took pieces of banana when held near its bill, without first tasting of them, while it would not at first touch guavas or papaws (*Papaya*). All these things must have been equally strange to it by sight. It may be remarked, by the way, that no wild bird ever has an opportunity of eating bananas or plantains in this part of Africa, at least, as they never ripen on the stalk or "tree." The name "Plantain-eater" is a ridiculous misnomer, as applied to any bird in West Africa.

HALCYON FORBESI.

Halcyon torquatus forbesi Reichenow, V. A. ii. p. 280.

No. 4034. Imm. (culmen 40 mm.). Bitye.

No. 4340. Not quite mature (culmen 45 mm.). Bitye.

These specimens shew their immaturity, in different degrees, by a mixing of the black and red colours of the bill, which in adults are clearly separated, the red above and the black below; and by a wash of yellowish-brown on the plumage of the under parts. No example of this species had previously been obtained by me, but last year I got specimens of it and the similar, but much bluer, *H. malimbicus* in the same locality. One of the specimens of *H. malimbicus* was likewise immature (culmen 38 mm.) and shewed the same mixing of colours in the bill, but none of the colour on the under parts mentioned above: even this immature bird is much bluer than the specimens of *H. forbesi.*

H. senegalensis and *H. cyanoleucus* form another example of a pair of species very similar to each other, found in the same locality.

One of my specimens of *H. malimbicus* was shot on the border of an army of driver-ants. I have more than once seen a *Halcyon* of some species among the birds that always gather about an army of drivers, to feed on the insects and other small creatures that are routed out of their hiding-places and compelled to flee for their lives by the terrible ants (see under *Astur toussenellii* above, p. 493). In the stomachs of birds shot while so engaged, I have more than once found driver-ants that had been swallowed incidentally, attached to the bodies of their insect prey, for a driver-ant never lets go its hold. This, I believe, furnishes an explanation of the statement made in Mr. Pycraft's 'History of Birds' (p. 406)—authority not given—that *Halcyon cyanoleucus* subsists on ants. The food of all species of *Halcyon*, so far as I have observed, is beetles, grasshoppers, cockroaches, small frogs, &c.; in the stomach of one I found a whip-scorpion. These are captured in a manner similar to that in which the more typical Kingfishers catch fishes; that is, by a swift arrow-like plunge, the heavy bill serving as the arrow-head and transfixing or striking the prey. Once, when sitting in a native house, I heard something repeatedly strike the roof of palm-leaf thatch with force, as if a small stone had hit it. I found that the noise was caused by a *Halcyon* (I do not know of which species) that was darting from a tree near by upon the cockroaches that crawled out on the roof.

HALCYON BADIUS.

Sharpe, Ibis, 1904, p. 608; 1907, p. 429; Bates, Ibis, 1909, p. 23.

Of all the species of *Halcyon*, this is more strictly a bird of the forest than any other, and is naturally the one most often met with in our forest region. It was found also at Assobam. It has a loud note, quite different from the cries made by the other species.

Nos. 4197 and 4198 were a pair of nestlings said to have been taken from a hole in an earthen ants' nest made in a tree by the big black species that bite, the same kind in which the hole of the Kô-nkaé was found (see notes on *Agapornis pullaria* above, p. 496). The bills are black with red tips, a white egg-tooth still persisting. The culmen measures only 21 mm., though the birds are large enough to have the wing-quills three-fourths grown. The wings in these birds were seen to be eutaxic.

Another clutch of two eggs of this species was found and brought to me along with the bird, No. 3941, a male, which was shot "just after it had left its nesting-hole." The hole was not in a tree-stem, but in a large hanging *njak*, which was brought with the eggs in it. This *njak* seems to have been of the kind made by termites, though at the time I thought it to be an ants' nest (see notes on *Dendromus nivosus* above, p. 509). It was nearly spherical, measuring 9 by 7 inches in greatest and least diameters, and was solid and heavy. None of the insects were in it when it was brought, and I think the hole may have been originally made by Woodpeckers. I have never seen anything to indicate that *Halcyon badius* eats ants or termites. All the stomachs examined have contained remains of Orthoptera and Coleoptera.

MYIOCEYX LECONTEI.

Ispidina lecontei Cassin, Proc. Ac. Sc. Philad. 1856, p. 158.

Myioceyx ruficeps Sharpe, Ibis, 1904, p. 607; 1907, p. 429.

A series of these little Kingfishers of different ages shews conclusively, what Reichenow already suspected, that *M. ruficeps* is merely the adult of the species already described by Cassin from a young specimen. No. 3328 in my series of specimens agrees exactly in every particular with Cassin's description. Other specimens are very similar to it, and others shew the gradual change to the adult plumage, the black of the crown being replaced by rufous, and likewise a gradual change in the colour of the bill. I have also specimens of a still younger stage than that seen in No. 3328. In this the bill is much shorter, and the feathers of the breast have narrow dark edges; but the most interesting point about these very young birds is that the bill is not so flat, and is pointed, instead of truncated, at the tip, as in older birds. The bill in the young bird does not shew the peculiarity which has caused this species to be made into a separate genus.

It is worth recording that one specimen, No. 3328, had fourteen rectrices, all alike in respect to newness or wear; and that another example, which was not preserved, had thirteen rectices, while all others examined had the normal number of twelve.

ALCEDO GUENTHERI.

Sharpe, Ibis, 1904, p. 607; 1907, p. 429.

Five young birds of this species, with most of the plumage still in the sheaths, giving them the appearance of being covered with porcupine quills, were brought to me alive in December. The boy who brought them said he had dug them out of a hole in the side of a pit on the bank of a small river near Bitye. While they remained alive for a few hours in a box, one of them continually made a most curious noise, something between a rattle and a fizzle, rhythmically varied in loudness by the opening and closing of the bill. Only one bird did this, and always the same one, while the rest remained silent. When that one was removed, another after some minutes took up the rôle of "soda-water bottle"; and when *that* one was removed, *another* commenced. There was always one "*fizzler*" only.

The large number, five, of nestlings is noteworthy as being unusual in this country. The wings of these young birds were found to be eutaxic.

This species was also found at Assobam.

CAPRIMULGUS BATESI. [Mvômvôt.] (Plate IX. fig. 10, egg.)

Sharpe, Ibis, 1907, p. 432; Bates, Ibis, 1909, p. 25.

All the birds obtained in breeding condition and the eggs found, both before and since my former note on this species, were taken in one or the other of the two dry seasons, and most were in March, at the end of the driest time of the year.

A young bird not completely feathered was brought to me in April. The abdomen was covered with long buff down, and there was some similar down on the legs. The pectination of the middle claw was not well developed, there being only a wide margin, with a few shallow notches, on part of the length of the claw.

The egg figured here is the one that was brought in with No. 2937, the specimen from which the figure of the bird was drawn (*cf.* 'Ibis,' 1909, p. 25, pl. i.).

CAPRIMULGUS BINOTATUS.

Sharpe, Ibis, 1904, p. 612.

No. 4107. ♂. Bitye, R. Ja, February 1910. Length of wing 140 mm.

This is the second example of this rare and peculiar Nightjar that I have obtained, the other having been killed at Efulen eight years before at the same time of year. No. 4107 is smaller than the measurements given by Reichenow's description, and there is a distinct diagonal buff band on the scapulary feathers: both these characters may be marks of the male sex, supposing the original description to have been made from a female.

SCOTORNIS CLIMACURUS.

Reichenow, V. A. ii. p. 368.

No. 3425. ♀. Bitye, R. Ja, February 1909.

Two other specimens were shot, one at Assobam in January, and a second at the edge of a clearing at Bitye on Christmas Day, but both were badly damaged by shot. Thus all were obtained in the principal dry season; and none were in breeding condition. Like the Pennant-winged Nightjars (see 'Ibis,' 1909, p. 26) these birds seem to wander into the forest in the dry season only.

The one shot last Christmas rose in front of me as I was walking along the border of a field of ground-nuts, and settled on a small log not far off. There it went to sleep again, and remained till I returned with my little collecting-gun. No. 3425 was shot on the bare ground at dusk; it had been making short flights, as if catching beetles in the air and returning to the ground again.

MACRODIPTERYX MACRODIPTERUS.

Reich. V. A. ii. p. 370.

No. 3422. ♀. Bitye, R. Ja, February 1909. Length of wing 152 mm.

This specimen is somewhat small, and lacks the rusty neck-band, but seems to belong to the present species. It was apparently a straggler, and was shot in the driest time of the year, as were the specimens of the larger pennant-winged

Nightjar (see 'Ibis,' 1909, p. 26), of which another example was shot in March, also in the dry season. A male with long wing-plumes, belonging to one of these species, has also been seen at Bitye at the same season. The birds are always seen on the open grounds of clearings, and not in the forest. I almost walked on one when crossing a newly made clearing; it was on the ground, amongst the brown and yellowish dry leaves and grass, which it so closely resembled in colour that if it had not flown I might almost have stepped on it without seeing it.

CHÆTURA SABINII. [Mvaé.]

Reich. V. A. ii. p. 388; Bates, Ibis, 1909, p. 27.

Four more specimens have been obtained, adult males and females. The length of the wing varies from 121 to 125 mm.

Were it not that these Swifts have a propensity to fly into houses, doubtless taking then for caves or large hollow trees, I should have seen less of them than I have. Two of my specimens were caught in native habitations. I have a number of times seen Mvaé dart past my house, and sometimes enter it, even clinging for a moment to the wall. One specimen was knocked down by a man with a stick as it came out of an old pit in the forest. I used to see a pair of Mvaé every day, coursing about in the vicinity of a large hollow tree, where they doubtless had a nest.

Two nests with eggs, taken from hollow trees, were brought to me, in each case with a bird. One, a male, was shot by my boy as it clung to the inside of a hollow tree, which was open above, giving light enough to shoot. There were three other birds, making two pairs, in the hollow. The other specimen brought with a nest was also a male. It had been caught with a butterfly-net by a boy who saw it enter a hollow under the half-rotten roots of an old tree, and secured it as it flew out, afterwards taking the nest. These nests were made of small bits of twigs stuck together, and were shaped like half-cups, glued to the wall of the hollow tree. In one were three pure white eggs, measuring, respectively, 18 × 12·5, 17·5 × 12·5, and 17 × 12 mm. In the other were two similar eggs; one was broken, the other measures 17 × 12 mm.

TACHORNIS PARVUS.

Tachornis parvus brachypterus Reichenow, V. A. ii. p. 386.

No. 4449. ♂ (testes small). Bitye, Oct. 1910.

I had seen these Palm-Swifts about the cocoa-nut trees at the coast, but had never noticed them in the interior till last year. During this time they were not infrequently seen sailing to and fro about some palm-trees for a few minutes at a time, and then disappearing; none were ever shot or even seen to alight. The specimen I at last obtained was picked up one morning after a storm on a path bordered on either side by tall wet grass.

PITTA REICHENOWI. [Kô'-afan.]

Sharpe, Ibis, 1904, p. 621; 1905, p. 467.

No. 4196. ♀, breeding. Bitye, May 1910. Inside of mouth and tongue orange (as in young birds, though this individual was adult). It was snared with a noose fixed on the ground in the forest, where it had been scratching.

No. 4417. ♂ (testes large). Inside of mouth and tongue red; iris dark reddish-brown; bill black, with a red spot on the culmen and a small one on the gonys; feet greyish-white. A brood-spot on the abdomen.

This last bird was brought, along with a nest and two eggs, from the big forest by a man who saw the nest on the branch of a fallen tree, higher than his head. He climbed to it and fixed a large *Phrynium* leaf over it and another under, in such a manner that by drawing a noose he could enclose the bird when it came back to the nest. Late in the evening he drew the string, and the next morning went and took his prisoner out, still alive.

The nest was too much disarranged to be described; it was large, and composed mainly of dried forest leaves, with some petioles and rootlets.

The eggs (Nos. 586, 587) measure 30 × 21 and 29 × 21 mm. One was nearly covered with adhesive dirt, looking like that left by termites, though it was a fresh egg.

[Eggs Nos. 586 and 587 are of a regular oval form, slightly glossy; the ground-colour is creamy-white with small spots and rounded blotches of dark vandyke-brown and various shades of grey, mostly confined to the larger end.—O.-G.]

HIRUNDO SENEGALENSIS.

Reich. V. A. ii. p. 415.

No. 4300. ♂ (testes rather large). Bitye, July 1910.

This, the only specimen obtained, was shot with bow and arrow while it was getting clay on the path. The claws were remarkably sharp.

PSALIDOPROCNE PETITI. [Nguleyebe.]

Sharpe, Ibis, 1904, p. 621; 1907, p. 444.

An immature bird. No. 4294 has the under side brown, quite light and greyish on the abdomen. No. 3508 has some greyish-brown feathers among the new black ones.

No. 3954, a sitting female with two empty ovum-sheaths in the ovary, was brought to me with a nest, consisting of a pile of moss-like *Usnea*, and two white eggs. All were said to have been dug out of a hole in the side of a pit made to catch animals. The eggs have little gloss, and are very long, measuring 21 × 13 and 20 × 13 mm. respectively.

When I was having clay dug from a pit for making bricks, three pairs of these little black Swallows were seen during several days, sailing close over the pit whenever the work-boys were away. They had probably begun excavating to a slight extent; if so, they never alighted to work, but took a mouthful of earth in passing—I could not be certain whether they did this or not. They always passed in pairs, and were often heard to utter a low "weeping" note. Usually these birds are perfectly silent.

FRASERIA OCREATA. (Plate IX. fig. 12, egg.)

Sharpe, Ibis, 1908, p. 328; Bates, Ibis, 1909, p. 29.

A bird of the forest, this species has been seen in every locality where I have been in S. Cameroon, but was especially abundant near my camp at Assobam. Sometimes there were small parties of four or five, chasing one another with a buzzing or scolding noise. I occasionally heard some pleasing song-notes from one at Assobam, and two pairs were found breeding there. One pair seemed to be beginning to build in a knot-hole near the top of a small dead tree.

One sitting female was brought with a nest set between two stout twigs of a branch. This nest was composed of a large mass of fine fibres, with a good-sized cup-shaped cavity. The inside fibres appeared to be rootlets, and were very rough; the feathers of the bird's breast were extremely worn, so as to be mere stumps, and had lost the white ends, making the bird's breast appear dark grey. A single nestling in this nest had the upper parts of its plumage covered with small light brown spots or speckles, thickest on the head, and the inside of the mouth orange.

Another sitting bird, shot with a little arrow in the head, was brought in at Bitye, along with a nest and two eggs. The nest was made of dry leaf-skeletons and stems, with no soft lining. It was said to have been taken from a small shallow knot-hole in a tree. The bird sat in this hole with only its head visible. One egg was broken; the other measured 21 × 17 mm.

[One egg is of a wide oval shape and distinctly glossy. The ground-colour is light olive-green, longitudinally marked with smeared blotches and spots of bright umber-brown and dark grey, which conceal the greater part of the ground-colour.—O.-G.]

MUSCICAPA GRISOLA.

Sharpe, Ibis, 1904, p. 623; 1907, p. 446.

Dates of recent specimens, and state of plumage:—

No. 3546, March 30. Plumage new-looking.
No. 3934, September 27. ,, worn.
No. 3986, October 23. ,, ,,

(One not preserved) October 13. Plumage worn.

No. 4016. Imm., November 30. Plumage not worn; light tips on some wing-coverts.

The specimens with worn plumage shewed the effect of exposure to the sun and weather on the uncovered tips of the remiges. The tip of each of the longer quills was thin and transparent up to a point where it was overlapped by the next. This fading and thinning of the feather-tips must have taken place while the wing was folded, and is evidence of long days spent by the bird perched in the open, watching for insects.

ALSEONAX EPULATUS.

Butalis epulatus Cassin, Proc. Ac. Sc. Philad. 1855, p. 326.

Alseonax fantisiensis Sharpe, Ibis, 1904, p. 622; 1907, p. 445; Bates, Ibis, 1909, p. 30.

Alseonax epulatus fantisiensis Reichenow, V. A. ii. p. 456.

There is no doubt that there are among my birds two species of very small Flycatchers, alike in size, but differing in the colour of the plumage and very strikingly in the colour of the feet and bill. This last character is very noticeable in live birds, the one with the bright yellow bill and feet, contrasting with the slaty-blue plumage, being distinguishable from the other even when seen perched at a distance. A large series of specimens of both forms conclusively shews that the difference is not one of sex or age.

A careful reading of Cassin's original description makes it certain that the type of *Butalis epulatus* was a bird of the kind afterwards described as *A. fantisiensis*, that is, the kind with the dark feet and bill and the lighter grey back. The words of the original description are "plumage above cinereous" and "bill and feet dark." That Cassin afterwards received specimens of the other species, and supposed the difference to be due to age, appears by his remark in a later writing (Proc. Ac. Sc. Philad. 1859, p. 51). In the British Museum there are specimens of *both* species collected by Du Chaillu, all originally labelled "*Butalis epulatus* Cass." Dr. Sharpe seems to have been led to make the mistake by receiving later the dark-legged and light-backed species from

Fantee, and then following out the theory that every bird of Upper Guinea must have its nearly allied representative in Lower Guinea. As a matter of fact, these two species live side by side in Cameroon.

No. 3621, a female that had recently been sitting, was shot in April at its nest, which was brought with two nestlings. The nest was like that formerly described ('Ibis,' 1909, p. 30) and the nestlings had much tawny down.

ALSEONAX FLAVIPES, nom. nov. (Plate IX. fig. 18, egg.)

Alseonax epulata Sharpe, Ibis, 1904, p. 622; 1907, p. 445; Reichenow, V. A. ii. p. 455 (*nec* Cassin).

Muscicapa epulata Cassin, Proc. Ac. Sc. Philad. 1859, p. 51 (*nec* Cassin, 1855).

Like *A. epulatus* (Cassin), but darker, bluish-slate-coloured above; lower mandible, base of the upper mandible, and feet bright yellow.

No. 3942, a female with very marked brood-spot, was brought with the nest on which it had been shot with bow and arrow. This nest was a loose pile of fresh moss with a small cup-shaped cavity, 40 mm. in diameter, lined with *Usnea*. The two eggs (Nos. 372, 373) measure 17 × 13·5 mm.

[They are a nearly perfect oval in shape and entirely devoid of gloss. The ground-colour is dull greenish-white, indistinctly clouded and marked all over the shell with faint rufous and greyish mottlings. In No. 373 (the one figured), which is somewhat more brightly coloured, the rufous markings are much more numerous and concentrated towards the larger end.—O.-G.]

ALSEONAX OLIVASCENS.

Parisoma olivascens Cassin, Proc. Ac. Sc. Philad. 1859, p. 52.

No. 2640. ♂ (testes large). Akok, between Efulen and Kribi, July 1907.

No. 3018. ♀ breeding. Assobam, Dec. 1908.

No. 3319. ♂ immature. ,, ,, ,,

No. 9441. ♀ (egg in oviduct). Bitye, Oct. 1910.

All the specimens had the iris dark brown, the bill black above, whitish horn-coloured beneath, the feet brown. The immature bird has pale yellowish-brown tips to the wing-coverts.

These birds, obtained at widely different places in Southern Cameroon, agree so perfectly with the description of Du Chaillu's bird collected more than fifty years ago that the suggestion of Dr. Sharpe that they were the same seems to me to be little short of certainty. I have been led to place the bird in *Alseonax* not only by its appearance, but by what I have been told by my hunter of the habits of one that was shot; the light-tipped wing-coverts go to strengthen this opinion.

PARISOMA PLUMBEUM.

Reich. V. A. iii. p. 521.

No. 3985. ♂ breeding. Bitye, Oct. 1909.

No. 4115. ♀ nearly ready to lay. Bitye, Feb. 1910.

Iris brown; bill black, grey beneath; feet grey.

The order of the birds in Reichenow's 'Vögel Afrikas' is only here departed from because of the manifest resemblance of *Parisoma* to the Flycatchers, rather than to the Tits.

PARISOMA HOLOSPODIUM.

Bates, Bull. B. O. C. xxv. p. 27.

Nos. 3138, ♀, Nov.; 3690, 3696, ♂, May; 4043, ♂, Nov.; 4221, ♂, June. All collected at Bitye.

PEDILORHYNCHUS COMITATUS. [Kula] (Plate IX. figs. 13 & 17, eggs.)

Pedilorhynchus camerunensis Sharpe, Ibis, 1904, p. 624; 1907, p. 447; Bates, Ibis, 1909, p. 30.

Alseonax comitatus Grant, Trans. Zool. Soc. xix. p. 392.

The fact that nestlings and immature birds of this species have no light spots on the wing-coverts or other parts of the plumage makes one suspect that its real affinities, in spite of appearances, are rather with *Trochocercus* and other genera than with *Alseonax*; hence I keep it in the separate genus made for it by Reichenow. The plumage of young birds has already been noticed ('Ibis,' 1909, p. 31) and is further illustrated by two later examples (No. 3775, a young bird with plumage not quite grown, and No. 4410, which is still younger). Both of these had the inside of the mouth and the tongue orange without markings and the margin of the gape whitish. No. 4410 was one of two nestlings brought, in the nest, with the old male bird, No. 4409.

Five additional nests with eggs have been secured since those previously reported. All these were merely a slight additional lining placed inside old nests of Weaver-Finches, generally those of *Ploceus nigricollis,* but in one case that of *P. cucullatus.*

Five additional eggs vary in length from 19 to 21 mm., and in width from 13 to 13·5 mm.

[These examples closely resemble those already described, but in two specimens (Nos. 200, 201) the dense markings are reddish brown in tint.—O.-G.]

PEDILORHYNCHUS BREVIROSTRIS.

Bates, Bull. B. O. C. xxv. p. 28.

The type-specimen, the only one secured, was shot at Assobam; *P. comitatus* was not seen there.

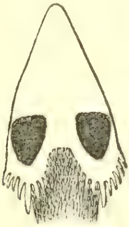
CHLOROPETA BATESI. (Plate IX. fig. 15, egg, and text-fig. 14.)

Sharpe, Ibis, 1905, p. 468; 1907, p. 448.

A comparison of the specimens in the British Museum seems to shew that this species is really distinct, though all the forms of the genus are closely allied. *C. batesi* most nearly resembles *C. massaica,* but differs in having the darker colour of the crown not so well defined from the colour of the back, and in having the yellow loral spot rather larger and more distinct. My later specimens agree with those sent previously. Moreover, these later specimens, in which the colour of the feet was noted, all had them *grey,* while specimens of *C. massaica* are marked "legs black." In my specimens the irides were brown; the bill above was dark horn-coloured, beneath yellowish-white with blue veins.

In this bird the number of the rectrices is *ten.* This remarkable fact was ascertained by examining many freshly killed specimens, which can be more easily handled than dried ones. Moreover, two nestlings were examined, in which the tail-feathers shewed as a row of points across the pygostyle, and in each case there were just ten such points.

Text-fig. 14.



Tongue-spots of *Chloropeta batesi.*

The nestlings have the inside of the mouth and the tongue orange, and the tongue has a pair of black spots at the base —a character found in no other nestling Flycatcher (see text-figure 14). Adult birds retain much of the orange-colour inside the mouth, but there are no tongue-spots.

Four nests have been found and brought to me, in every case with the sitting bird. Three of these, one being a male, were caught on the nest after dark; the fourth, also a male, was shot on the nest with a bow and arrow, at dusk. These nests were found in *bikótók* or cultivated ground; two in forks of the big weed *Triumfetta,* the others on tangled bushes, one of which was thorny. They are bulky fabrics, though the cup-shaped cavity inside is small. The material is grass-blades and in one strips of maize-blades mixed with the " silk " of maize-ears; and all are lined with the finest grass-tops. Three nests contained two eggs each, the fourth two nestlings.

The eggs vary in length from 16·5 to 18 mm., and in breadth from 12 to 13·5 mm. No. 395, the specimen figured, measures 17 × 13·5 mm.

[They vary in shape from a wide oval to a rather narrow oval, and are slightly glossy. The ground is pinkish-white, with very fine dots and minute spots of maroon-red and lilac-grey, most numerous towards the larger end. In two specimens (394 and 395) the larger end is washed with dull pink forming an indistinct cap.—O.-G.]

Bias musicus. [Kulityang.] (Plate IX. fig. 9, egg.)
Ibis, 1904, p. 626; 1905, p. 94; 1907, p. 450.

The Kulityang makes its nest in the smaller trees of old cleared ground about villages. It is a shallow cup composed of fine dry leaf-petioles and stems, without any soft lining; and is bound about with a netting of cobwebs, like the nests of other Flycatchers. The inside diameters, measured in different directions at the top, vary from 50 to 60 mm. Along with one nest were brought a *pair* of old birds, the female with a brood-spot, the male with large testes and in worn plumage. The boy who brought them said that he first shot one of the birds on the nest with his bow; then the other came and sat on the same nest, when he shot it also. There were two eggs, but only one (No. 496) was saved. It measures 21 × 16 mm.

[The egg is of a rather wide oval form, slightly pointed towards the smaller end and devoid of gloss. The ground is pale bluish-green, with a rather wide dense zone round the larger end formed of small spots and blotches of umber-brown and lilac-grey, and a few small scattered markings over the rest of the shell.—O.-G.]

Smithornis camerunensis. [Mbamezok.]
Sharpe, Ibis, 1907, p. 451; Bates, Ibis, 1909, p. 31.
Grant, Trans. Zool. Soc. xix. p. 400.

In reporting an additional nest and eggs, brought with a sitting female bird (No. 3090), it is only necessary to note that the materials of the nest were long stringy fibres, probably of dried bark of the weed *Triumfetta* or of dried plantain leaf-stalks—such things as are found in *bikótók* and not in the forest; that this nest contained three eggs, while previous ones had only two; and that these eggs were a little shorter than those obtained before, all three measuring 22 × 15·5 mm.

I believe now that the peculiar noise of the different species of *Smithornis* is made with the voice, as Mr. Swynnerton thought ('Ibis,' 1908, p. 92) and not with the wings. It is a call to attract the mate, and probably made by the male alone. It is made only while the bird is taking short circular flights, and at the same time displaying the white feathers of its back.

SMITHORNIS RUFOLATERALIS. [Mbamezok.]

Sharpe, Ibis, 1904, p. 627; 1907, p. 452.

No nest of the smaller forest Mbamezok has been recorded before. One (brought in with the sitting female bird, No. 4107) was like the nests of other species of the genus, and was made of materials obtained in the forest. The two fresh eggs (answering to the two empty sheaths found in the bird's ovary) were pure white with glossy and rather thin shells, and measure 23 × 15·5 and 22 × 16 mm.

SMITHORNIS SHARPII. [Mbamezok.]

Alexander, Bull. B. O. C. 1903, p. 34; Grant, Trans. Zool. Soc. vol. xix. p. 402.

Smithornis zenkeri Bates, Ibis, 1905, p. 27; 1909, p. 31.

The date of the original description by Alexander was Jan. 1903 (not 1902); but still his name has the precedence over that given by Reichenow and published in March 1903.

Another nest and eggs have been found and brought to me with the bird still alive, caught at evening in the nest. The fabric was made of fine black fibres and dried leaves, such as would be obtained in the forest, not on cleared land. The two pure white eggs measure respectively 21·5 × 17 and 22 × 16·5 mm.

HYLIOTA VIOLACEA.

Sharpe, Ibis, 1904, p. 625.

Nos. 1762, ♀; 1763, ♀ young. Bitye, June 1906.

No. 2169, ♂. Bitye, Jan. 1907.

The male is exactly like the bird obtained at Efulen in 1902. The adult female has the upper parts like the male, though with less lustre, and the white spots on the wing-coverts are not so large, none of the coverts being entirely white; the throat, breast, and abdomen are pale yellowish-brown (these parts are nearly white in the male). The young bird is dull black, without any white on the wing-coverts, and beneath nearly white.

Nos. 1762 and 1763 were shot by myself in the same tree, where they were busily flitting about among the twigs looking for insects, more in the manner of a Warbler than of a Flycatcher.

PLATYSTIRA CYANEA. [Njibesole.]

Sharpe, Ibis, 1904, p. 626; 1907, p. 449.

I have now heard this bird making noises very similar to those of *Diaphorophyia castanea* as already described ('Ibis,' 1905, p. 94); that is, a flipping noise, made with its wings during short flights, and a snapping noise made with its bill while at rest on a perch. Two or three rapid snaps with the bill were made at a time, the mouth being opened wide in making them. This was done by a male, and was evidently done to attract the attention of the female.

DIAPHOROPHYIA TONSA.

Bates, Bull. B. O. C. xxvii. p. 86.

No. 4039. ♀, breeding (type of the species). Bitye, Nov. 1909.

No. 3275. ♀ imm. Assobam, Dec. 1908.

? No. 2970. ♂ ad. Bitye, March 1908.

DIAPHOROPHYIA CHALYBEA. (Plate IX. fig. 22, egg.)

Reich. V. A. ii. p. 492.

D. chlorophrys Sharpe, Ibis, 1905, p. 469; 1907, p. 449.

Females differ from males only in having less metallic lustre.

No. 2954, ♂, was shot with bow and arrow, and brought to me with its nest and two nestlings, Nos. 2955 and *a*. The nest, like that of *Tchitrea*, is a little circular cup of fibres bound about with cobwebs, but is not so compact and neat as the Abelebele's nest. It measures 40 or 45 mm. in diameter at the inside of the rim.

The young birds, which are partly feathered, have no chestnut whatever in their plumage, but bear some resemblance to the adults. The throat and chest, however, are white, as well as the rest of the under side, and above they are of a dull greyish-black.

Another nest like the one described above was brought in with a sitting female (No. 3083) caught on the nest. The bird when held with a string tied to its foot made a snapping noise with its bill. Two eggs that were in the nest measure 18 × 12 and 17·5 × 12·5 mm.

[They are of a rather long oval shape and somewhat glossy. The ground-colour is dull greenish-white, with a heavily blotched and spotted zone of umber-brown and dark grey round the larger end and with a few small scattered markings over the rest of the shell.—O.-G.]

ERYTHROCERCUS MACCALLI.

Sharpe, Ibis, 1904, p. 628 ; 1907, p. 453.

This tiny forest bird does not feed singly, as other Flycatchers do, but in little flocks, sometimes by themselves, sometimes in company with birds of other kinds in an *éjak*. They continually make an excited twittering in a fine insect-like tone of voice, which sometimes reminded me of a brood of very young chickens. They are never still for a second, but when on a twig continually turn themselves and spread their tails in the manner of *Elminia longicauda*. They search for insects among the foliage, and only once have I noticed them pursuing their prey in the air.

This species was abundant about my camp at Assobam.

The departure from the usual custom of Flycatchers extends also to the nidification of this species, judging from a nest that was brought by my boy with two nestlings in it, and a breeding male *Erythrocercus maccallii*, which he had shot "at the nest." This nest looked almost like that of a *Cisticola*, being suspended from two small twigs and some of their leaves, to which it was fastened with cobwebs *stuck* on (not *sewn* as the nests of *Cisticola* and *Prinia*) ; it was composed of dry leaves with a little down inside, and was deep, and built high on the more exposed or open side.

The extremely small nestlings had the mouths inside and the tongues bright orange, unmarked, and the margin of the gape yellowish white.

ELMINIA LONGICAUDA. (Plate IX. fig. 20, egg.)

Sharpe, Ibis, 1904, p. 631; 1907, p. 456; Bates, 1905, p. 470.

The habits of this bird were described in 'The Ibis' (1905, p. 96), with its nest (1905, p. 457) and its eggs (1909, p. 32). One of those eggs, No. 41, is figured here. Other nests and eggs have been found, but the eggs were broken. A nest, brought in with the male bird, No. 3023, contained a single very young nestling. The inference from the fact that the first breeding birds and nests were found in June, namely, that this species has a distinct breeding-season, has proved partially correct, as the eggs and young found since have been in the months of March, April, and August, that is, all within a single half-year.

As this is a bird of the cleared land, averse to the forest, it is naturally most abundant about the Ja and Bitye; it was rare at Efulen, and not seen at all at Assobam, where the extent of the cleared land is small.

TROCHOCERCUS NIGRO-MITRATUS.

Reich. V. A. ii. p. 500.

Trochocercus nitens (nec Cass.), Sharpe, Ibis, 1904, p. 629; 1907, p. 453.

No. 84. ♀. Bitye, R. Ja, 1903.

Nos. 163, 408, 837, 1012. All ♂. Efulen.

Nos. 789, 1007. Both ♀. Efulen.

No. 1083. ♀. Zima Country.

Nos. 2561 & 2622, both ♂, and 2623, ♀. Between Kribi and Efulen.

No. 4266. ♀ ad. Bitye, July 1910.

Nos. 4454 & 4494. ♂ ad. Bitye, Nov. 1910.

Nos. 3926 ♀, 4222 ♂, & 4495 ♀, all immature. Bitye, 1910.

No. 4267. Fledgling. Bitye.

All these specimens are mentioned, because Dr. Sharpe had placed those collected previously to the writing of his papers under *T. nitens*. Others given in his papers under *T. nitens* are not now in the British Museum. This species is the darker-coloured and bluer one, with but little crest and a shorter tail. There is no difference between the sexes as regards plumage; females are slightly smaller than males. Immature birds may be known from the plumage only by the fact that the black of the crown is not so deep, and even the very young bird mentioned above is of the same general colour as the adults, though the head is only dull slaty black, and the back dull dark grey, not bluish.

This species and *T. nitens* are very distinct, and are distinguished by Dr. Sharpe. But in some unaccountable way he got the names transposed; and his remarks shew a confusion apparently caused by a subsequent effort to reconcile the specimens with the wrong descriptions.

The iris and the feet in *T. nigro-mitratus* are coloured as in *T. nitens*, but the bill is entirely black.

The young bird (No. 4267) had the inside of the mouth and tongue bright orange, unmarked, and the margin of the gape pale yellow. It was shot with bow and arrow along with No. 4266.

TROCHOCERCUS NITENS.

Cassin, Proc. Ac. Sc. Philad. 1859, p. 50; Reich. V. A. ii. p. 500.

Trochocercus nigromitratus (nec Reich.), Sharpe, Ibis, 1904, p. 629.

No. 898, and one of 12 Dec., 1902. Both ♂ adult. Efulen.

No. 407. ♀ adult. Efulen.

Nos. 114 & 1062. Both ♂ immature. Efulen.

No. 3278. ♀ adult. Assobam, Bumba R. Dec. 1908.

No. 3299. ♂ „ „ „ „ „

No. 3172. ♂, changing by moult from immature to adult plumage. Assobam, Dec. 1908.

No. 4137. ♂ adult. Bitye, March 1910.

Nos. 4244 and 4260. Both ♂ immature. Bitye, June and July 1910.

I have given a full list of the specimens in this collection, and added to them the specimens from my former collections that I find in the British Museum, because Dr. Sharpe has strangely confused this species with *T. nigro-mitratus*. Adult males have a shining blue-black plumage on the head, back, throat, and chest; adult females have this colour on the head only; immature birds have only the head black, and of a duller black than the adult females.

The iris in all is very dark brown, almost black; the bill and feet are blue, but the former has a black tip.

The immature birds have the rectrices a little longer and much more pointed than those of adults.

Tchitrea viridis. [Abelebele.]

Sharpe, Ibis, 1904, p. 630; 1905, p. 470; 1907, p. 154; Bates, Ibis, 1905, p. 95; 1909, p. 32; Reich. V. A. ii. p. 504.

Terpsiphone duchaillui Grant, Trans. Zool. Soc. xix. p. 404.

Tchitrea melanura Reich. V. A. ii. p. 503.

Tchitrea speciosa Reich. V. A. ii. p. 724.

I have brought home a large series of male birds with long tail-plumes, which, in spite of the astonishing variation in plumage, I believe to belong to the same species.

Two male specimens in the British Museum, one from the Gambia, and the other from Casamanse, with chestnut tails and under tail-coverts, might be taken to represent one species, while those of Cameroon and Gaboon form another; but my No. 3277 is an exact counterpart of the Gambia examples. I have also specimens in which all the parts that are chestnut in the cases just referred to are white, and it seems to be true that wherever white appears in the plumage it has been preceded by chestnut.

Still more remarkable are the birds with the middle rectrices black. No. 4013 has these perfectly black; one (No. 4512) has some white near the shaft, as in Reichenow's *T. melanura*; but another bird (No. 4181) has the middle tail-feathers black and white, with the white predominating. No. 4013 has the lateral rectrices black; other specimens have them chestnut and black mixed. It is impossible to separate my birds into different species. Besides, they seem all to live together in the *bikótók*, while the other two species of the genus in my district are birds of the forest.

There can be no question of hybrids among these variously coloured birds, for no two species have yet been found which could produce such hybrids. We seem to have to deal with a wild species varying as remarkably in coloration as do many domestic species.

Birds of this species have the bill and feet blue, the bill having a black tip; the inside of the mouth is greenish yellow, brightest in adults.

The long middle rectrices of the male become extremely worn. When they are shed, they are soon replaced by a new pair, so that adult males are seldom seen without them.

These birds are nearly always breeding, and nests and eggs have now been found and recorded in every month of the year except one, and in that month birds in breeding condition have been shot. The nests are often in exposed places and many eggs and young are probably destroyed. The male bird, in spite of his conspicuous plumage, takes a share in the work of incubation. Once I saw a female fly off a nest at my approach, and on returning about fifteen minutes after I discovered the male on the nest. Various observations lead me to think that the male sits during the hours of broad daylight, and the female at evening, night, and morning; but that the parent not on duty is generally close at hand to take the place of its mate, if frightened off.

Of many eggs now obtained, none vary much from those already described, though the limits of size given before will have to be extended, the extremes in length being 20 and 17 mm., and in width 15 and 12·5 mm.

TCHITREA RUFO-CINEREA. [Abelebele.] (Plate IX. figs. 19 & 21, eggs.)

Sharpe, Ibis, 1904, p. 631; 1907, p. 456; Bates, Ibis, 1909, p. 33.

This species is of a more retiring disposition than *T. viridis*, and keeps to the forest, but seems otherwise to resemble it in its habits. It has nearly the same calls and song, but in a more subdued tone, and has also been heard making an unusual chattering noise, something like that of a small squirrel.

The colouring of the bill, eyelids, the inside of the mouth, and feet in this species is the same as in *T. viridis* and in *T. tricolor*. The iris in all three is very dark brown or black.

Another male of *T. rufo-cinerea* was shot with bow and arrow, while sitting on the nest in the daytime, and another male was shot just after leaving the nest. A sitting female was caught on the nest at dusk in the evening. The six eggs from these three nests agree in measurements with the larger of the eggs of *T. viridis*, none varying more than half a millimetre from 19 × 14 mm.

[In addition to those already described ('Ibis,' 1909, p. 33) the present collection contains eggs more profusely spotted and marked with *light red* and lilac-grey. These are almost inseparable from eggs of *T. viridis.*—O.-G.]

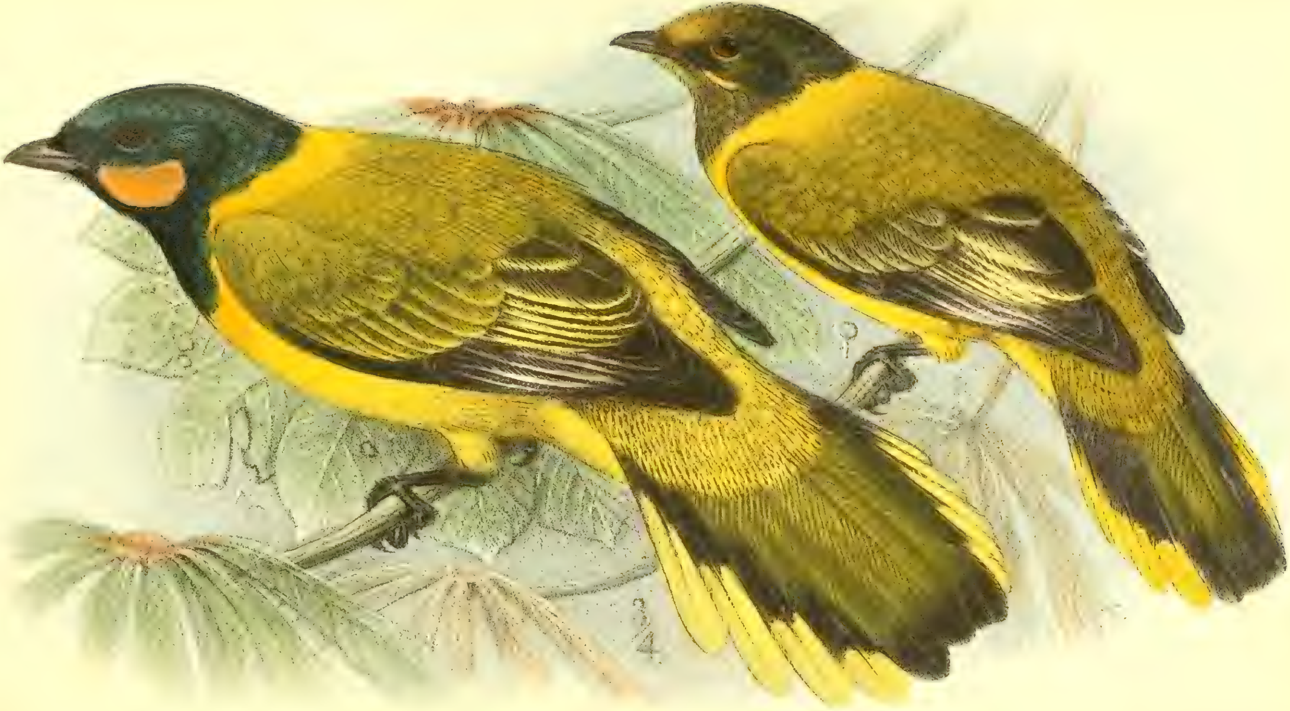
TCHITREA PLUMBEICEPS.

Reich. V. A. ii. p. 510.

No. 1890. ♂ (testes small). Bitye, R. Ja, Aug. 1906.

No. 3967. ♂ (testes rather small). Bitye, R. Ja, Oct. 1909.

These specimens, the first of which was recorded by Dr. Sharpe under *T. rufo-cinerea* ('Ibis,' 1907, p. 456), seem to be the first found farther north in West Africa than Manjanga on the Congo or (doubtfully) Landana. In neither do the middle rectrices appear to be fully grown, though in one they are already over a foot long. The colour of the bill, the ring around the eye, and the feet in No. 3967 are of a paler blue than in any of the three other species



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LOBOTUS ORIOLINUS, ♂. ♀.

(see above, under *T. rufo-cinerea*), and there was a distinct wattle below the eye, not seen in the others.

CAMPOPHAGA QUISCALINA.

Sharpe, Ibis, 1904, p. 632; 1907, p. 457.

Nos. 3834, 3835. ♂ ♀ ad. Bitye, Aug. 1909.

Both these adult birds had the inside of the mouth bright orange, the iris dark brown, the bill and feet black, though the feet of the female were rather of a dark slaty horn-colour. It is remarkable that the female is somewhat larger than the male, with a longer bill; the difference in size appeared even in the bodies after skinning.

A specimen of a young *Campophaga* (No. 3375, ♂, Efayong, R. Ja, Jan. 1909) has barred plumage like the young and females of *C. nigra*, and can scarcely belong to the same species as the adult specimens.

LOBOTUS ORIOLINUS. (Plate VIII.)

Lobotus oriolinus Bates, Bull. B. O. C. vol. xxv. p. 14.

No. 3181, ♂; 3202, ♀. (Types of the species.) Assobam, South-Eastern Cameroon, Dec. 1908.

No. 3154, ♀; 3153, ♂. Assobam, South-Eastern Cameroon, Dec. 1908.

No. 3142. ♂. Efayong, R. Ja (halfway between Bitye and Assobam), Nov. 1908.

These specimens were shot on my trip to the eastern side of the colony, November 1908 to January 1909. All were adult birds with more or less enlarged breeding-organs, and some were moulting. The food found in their stomachs was generally caterpillars, but sometimes grasshoppers or other insects. They were inactive birds, and never seen in flight, but always perched, silent and solitary, among the leaves of small trees. Their resemblance in colour to *Oriolus lætior* is such that neither my boys nor I, if we could not see the bill, could distinguish them when seen in a tree.

SIGMODUS RUFIVENTRIS.

Sharpe, Ibis, 1908, p. 328; Bates, Ibis, 1909, p. 33.

Nos. 3719 and 3731 were immature: they differ from adults in the plumage of the throat and chest, and in the colour of the bill. The bill is black or red mixed with black, while in the adult it is entirely red; the black throat-plumage is mixed with a yellowish-brown colour like that of the belly, and there is a tinge of the same colour on the white chest.

It was a mistake when I spoke of the "yellow iris" of birds of this species. The conspicuous yellow colour is not that of the iris, but of the ball of the eye, outside the iris; the latter is dark brown.

A small flock of these birds was observed day after day near my camp at Assobam. They were always seen near the same place moving from tree to tree in a sluggish way, one at a time, and then sitting for a long time motionless. One of the sounds made by them resembled the "swishing" of a switch; this was made with the mouth while the birds were sitting still. They also make a snapping noise with the bill. A specimen that was brought to me alive, having been merely knocked down by the little arrow, made this loud snapping noise.

POMATORHYNCHUS FRATER.

Sharpe, Ibis, 1908, p. 335; Bates, Ibis, 1909, p. 33.

Two young birds, one half-fledged and still in the nest, and one which had just left the nest, had the plumage much like that of the adult. In each the tongue and the inside of the mouth were bright orange, while the swollen margin of the gape was white.

The majority of the nests with eggs have been found in the month of August, but nests with eggs or nestlings have also been obtained in September and October, as well as in March. The principal rainy season begins at the end of August, and it is probable that insects are most abundant at that season.

The number of eggs in a nest was always two. Seven eggs not included in the former description vary in length from 25·5 to 22 mm., and in width from 18 to 16·5 mm.

[These eggs much resemble those already described, and are quite of the same type as those figured in the 'Catalogue of Birds' Eggs in the British Museum,' vol. iv. pls. xii. & xiii.—O.-G.]

CHLOROPHONEUS BOCAGII.

Dryoscopus bocagei Sharpe, Ibis, 1908, p. 331; Bates, Ibis, 1909, p. 35.

A young bird (No. 3881) has the whole upper surface finely barred, the wing-coverts tipped with light yellowish-brown, and the under surface—the ground-colour of which is yellowish-white—finely barred with dark colour. A still younger bird (No. 4263) is similarly marked, but is without the yellowish tinge beneath. A nearly adult bird (No. 4058, ♀) has still a few light tips on the wing-coverts. The young birds have the tongue and inside of the mouth orange, the tongue being dark or black at the base, but not in defined spots.

CHLOROPHONEUS REICHENOWI.

Cosmophoneus reichenowi Neumann, J. f. O. 1899, p. 393

Nos. 1525, 2162, 2190, 4124. Adult ♂. Bitye, R. Ja.
No. 3373. Adult ♂. Efayong, R. Ja.
No. 1463. ♀. Bitye, R. Ja.

CHLOROPHONEUS BATESI.

Sharpe, Ibis, 1908, p. 330.

Nos. 3607, 3627 (♀'s); 3612, 3626, 3781, 3786, 3791, 4146, 4176, 4237 (♂'s). All killed at Bitye. River Ja.
No. 3374. Young ♀. Efayong, R. Ja.

The evidence of these specimens confirms Dr. Sharpe's opinion that this is a species distinct from *C. multicolor*. Some of the male specimens have, indeed, more or less green instead of black in the tail, and in this respect approach *C. multicolor*; but such birds seem, from other considerations, to be hardly adult. All specimens of *C. multicolor* have green tails. Females of *C. batesi* have about as much of the under surface scarlet as males of *C. multicolor*, while the females of the latter have no scarlet. There seems to be an evolution going on in both these species towards more black and scarlet in the plumage, the males leading; this evolution has gone a step further in both sexes in *C. batesi* than in the other species.

A young specimen has all the wing-coverts tipped with yellow, traces of yellow bars on the back, and of dark bars on the breast.

In the adult males the irides are dark blue; in younger birds and females this colour is more or less mixed with grey; the feet of all are bluish-grey.

The birds of this species that have been shot, in one case by myself, were met with in *bijak* along with other birds, in the second-growth woods of old cleared ground (*bikôtôk*).

LANIARIUS LUEHDERI. [Nko'o-bikôtôk.] (Plate IX. figs. 1-4, eggs.)

Sharpe, Ibis, 1908, p. 330.

No. 3068 is a young bird with the plumage not fully grown. It represents a still younger plumage than that of which the description is given in Reichenow's 'Vögel Afrikas.' All the upper side is finely barred with light brown and blackish; the under side is olive-yellow with fine dark bars, which are wanting on the crissum and buff under tail-coverts.

I have already spoken ('Ibis,' *l. c.*) of the commonness of this bird in the impenetrable thickets of old cleared ground (*bikôtôk*) and of its calls in which mates answer each other, nearly always while out of sight. The call of the female is probably the low "churring" one, while the one I think to be that of the male might almost be described as a "cooing" note. Once a bird of this species that was making these "cooing" calls was seen to bend its head and neck forward at each utterance.

Several nests of Nko'o-bikôtôk have now been found. They are shallow cups set in the forks of low trees or bushes or in the big half-shrubby weed *Triumfetta*. These nests are composed of dried weed-stems with fine rootlets inside, the rootlets seeming to be an invariable feature. They are shallower and ruder in construction than the somewhat similar nests of the Pycnonotidæ.

Nests with eggs or young were found in the months of August, September, and October.

Nine eggs have been collected. The smallest of these, No. 287 (fig. 2 in the Plate), measures 22 × 16 mm.; No. 289 (fig. 1) measures 27 × 18 mm.; another is 26·5 mm. long. These measurements give the extremes.

[Eggs of this species vary in shape from a long rather pointed oval to a wide regular oval; they have little or no gloss. The ground-colour is pale blue, pale greenish-blue, or in one instance creamy-buff. In some examples the markings are more or less regularly distributed all over the shell, in others they are mostly confined to the larger end, where they form a dense cap or broad zone. The surface-markings are reddish-brown or yellow-umber and the shell-markings are bluish-grey or lavender-grey.—O.-G.]

Dryoscopus senegalensis. [Sesô.]
Sharpe, Ibis, 1908, p. 332; Reich. V. A. ii. p. 592.
Dryoscopus tricolor Sharpe, Ibis, 1908, p. 333.
Nos. 4398, 4484, 4528. All ♂ adult. Bitye, R. Ja.
No. 4776. ♀. Bitye, R. Ja.
No. 3030. ♂ nestling. Bitye, R. Ja.

The varying shades of black, grey, and white on the backs of females of this species has caused much perplexity. Sharpe recognised (doubtfully) two species among my birds, and Neumann thought there were two species found in Cameroon, in which the males were alike, only the females differing. My large series of specimens, including those listed above, together with those in the British Museum from former collections, contains many adult males, but all with glossy black backs and wings and pure white rumps; while the females differ in all degrees, from those with grey backs and wings and light grey rumps, to one almost like the male on the back and rump. It is not unreasonable to suppose the last was an old female, and that as females advance in age they become more like the males in plumage.

The nestling is coloured much like the older birds, and shews no sign of barred feathers or of light tips on the wing-coverts.

DRYOSCOPUS GAMBENSIS.

No. 4368. ♂, breeding. Bitye, Aug. 1910.
No. 4405. ♂, breeding. Bitye, Sept. 1910.

MALACONOTUS GABONENSIS. [Ekôlat.] (Plate IX. fig. 6, egg.)

Sharpe, Ibis, 1908, p. 329.

No. 4151 shews clearly the change from the immature to the adult plumage, for among the pale feathers of the abdomen new ones of a deeper colour are growing. No. 3851, which is a much younger bird, with the plumage not fully grown, has the feathers of the head pale grey with buff tips, the throat, chest, and upper breast greyish-white, the lower breast, abdomen, and under tail-coverts pale yellow; the bill dark horn-coloured. Adult males have the breast somewhat redder than the females. Adults have the iris greyish-white; the bill black; the feet pale bluish-grey.

No. 3871, a breeding male, was shot near its nest, which was also brought to me with three eggs in it. This nest was shallow and loosely built of dry vines and small twigs and leaf-petioles, with the top and inside part of black rootlets. It was said to have been found on some leaning or crossing cane-like stems in *ékötök*. The eggs measure 28 to 28·5 mm. in length, and 20·5 mm. in width. No. 281 is figured.

[The eggs are of a regular oval shape or slightly pointed towards the smaller end, and they are very slightly glossed. The ground-colour varies from pale pink to pinkish-white.

The markings, which consist of spots and small blotches of rich maroon and pale purple, though scattered all over the shell, are chiefly concentrated in a wide irregular zone round the larger end.—O.-G.]

LANIUS MACKINNONI. [Asese.] (Plate IX. figs. 5 & 8, eggs.)

Sharpe, Ibis, 1908, p. 328; Bates, Ibis, 1909, p. 36.

Several young birds, fledglings or with the plumage hardly grown, have the characteristic finely-barred feathers of young Shrikes. Three of these that were females have no trace of the chestnut patch on the flanks that marks adult females.

A male of this species (No. 3868), which had been shot just as it left the nest, was brought to me. The nest contained two eggs, and are similar to a nest and eggs brought to me a few years ago which were thought to belong to this Shrike. The nest of No. 3868 was securely placed among a number of twigs; it was bulky, made of fine fibres, grass or weed-stalks, tendrils, and maize "silk."

The eggs measure 23·5 × 17·5 and 23 × 18 mm.

[Eggs of Mackinnon's Shrike are of a regular oval form, devoid of gloss, and have the ground-colour pale creamy white, finely spotted and speckled all over with pale yellowish-brown and lilac-grey, the markings, which are everywhere rather faint, being most numerous towards the larger end and in some specimens forming a regular wreath.—O.-G.]

DICRURUS SHARPII. [T'a-Beti].

Sharpe, Ibis, 1908, p. 355; Bates, 1909, p. 37.

No. 3774, a female with signs of recent incubation, was shot by myself near its nest, where it had been feeding its young. The nest was on a thin horizontal branch of a little tree, only ten feet from the ground, in an old *ékotok*. When the parent birds found me near their nest, one of them scolded me vociferously, alternating its scolding noise with its clear song-notes; it thus attracted quite a crowd of little Sunbirds and other species, including a Touraco, to the place. The nestlings were perfectly naked, with yellowish skins. They had the tongue and inside of the mouth deep yellow, without markings. The yellow colour persists at the base of the tongue in fully adult birds, after the rest of the tongue has become black like the bill.

The nest above mentioned was just like that already described (Ibis, 1909, p. 37), and suspended in the same manner between two twigs. The principal material consisted of Usnea stems, and probably the same material was used in the construction of the other nest, though I described it as "fine rootlets."

BUPHAGA AFRICANA. [Saé-nyat.]

Reich. V. A. ii. p. 666.

No. 4209. ♂. Bitye, June 1910. The tongue, which is thick and fleshy, and the inside of the mouth are red. The stomach contained several ticks, mostly cut in two, and a large fly. The edges of the bill, or *tomia*, are very sharp.

Nkolo, who shot the bird, one of a pair sitting on a dead tree, saw no sign of large animals near. I had long heard of the Saé-nyat (a Bulu name which is almost equivalent to "Ox-pecker," "nyat" meaning Buffalo), but I never obtained an example before.

ONYCHOGNATHUS HARTLAUBI.

Reich. V. A. ii. p. 702.

No. 3137. ♀ (shewing signs of incubation). Bitye, Oct. 1908. The stomach contained some dry seeds.

Though this species is rare, the condition of the specimen mentioned shews that it breeds about Bitye. It was the only one obtained, but others were seen in tall trees near my house and several times shot at but not killed.

LAMPROCOLIUS SPLENDIDUS. [Kwang.] (Plate IX. figs. 7, 11, eggs.)

Grant, Trans. Zool. Soc. xix. p. 264.

Lamprocolius glaucovirens Sharpe, Ibis, 1908, p. 357.

Lamprocolius splendidus glaucovirens Bates, Ibis, 1909, p. 37.

A young bird just able to fly is noted as having the metallic colours of the plumage nearly as bright as in the adult. No. 4418, somewhat younger, was taken from a knot-hole in a dead tree; it had the inside of the mouth flesh-coloured tinged with yellow, and the tongue dark, becoming black at the base. Two younger nestlings, also taken from a knot-hole in a tree, had the mouth inside of a yellowish flesh-colour. All had a conspicuous white mouth-flange or gape-margin. All these young birds and two clutches of eggs were found in the months of August, September, and October.

No. 4438, a female with a very marked brood-spot, was shot by Nkolo just after it had flown out of its hole in a tree.

He also brought the nest, a mere cushion of dry leaf-petioles, said to have been found at the bottom of the hollow in the tree, and three eggs. These eggs contained large embryos, and only one could be saved; it is No. 595, fig. 7 on the Plate. All three eggs were measured, and found to be 30, 29·5, and 29 mm. long respectively, and to have equal width, 21·5 mm. Thus they were much smaller than the eggs described before ('Ibis,' 1909, p. 38), but otherwise resembled them. Fig. 11 in the Plate is taken from No. 110, collected previously.

MALIMBUS NITENS. [Nga'a-minkan.] (Plate IX. fig. 14, egg.)

Sharpe, Ibis, 1908, p. 352; Bates, Ibis, 1909, p. 39.

In my previous notes I described nests of this species found in the Efulen district on overhanging branches of trees over the streams. In the Ja River district small streams are usually bordered by swampy ground thickly covered with the *Raphia* palm, and nests of *Malimbus nitens* are found hanging to the tips of its fronds. Here the material is not rootlets and the like, but shreds torn from the palm-leaves.

One such nest contained two nestlings nearly fledged, Nos. 4238 and 4239. These have red on the crops as in the adult, and one has also a few red feathers on the crown, though the adult has no red on that part. A still younger nestling, No. 3706, is almost entirely black, but shews a little dull red colour on the chest.

Another nest, in which the sitting female was caught, contained two eggs (Nos. 639 and 640). These are like those briefly described in a former note (Ibis, 1908, p. 352); both measure 24 × 16 mm.

[The eggs are of a long oval form and almost devoid of gloss. They have a yellowish stone ground-colour, with minute dots and spots, and large blotches of vandyke-brown and greyish-lilac.—O.-G.].

MALIMBUS CORONATUS. [Nga'a-minkan.]

Sharpe, Ibis, 1908, p. 352; Bates, Ibis, 1909, p. 41.

Nos. 3007, 3575, 3938, 3953, 4040, 4205, 4212. All ♂ adult.

Nos. 3005, 3008, 3055, 3558, 3939, 4258. ♀ adult.
Nos. 3576, 3600. ♀ young.
No. 4257. ♂ young.
All collected at Bitye.

In my former paper I gave evidence for believing that this species has a perfectly black female (of course, the words in that paper, at the top of p. 41, "in both sexes" should be struck out). I have now further evidence of this fact. All the six black female birds enumerated above were shot in company with birds that looked like males of this species. No. 4258 was killed by the same shot as No. 4257, a young male *M. coronatus*, and Nkole, who shot them, thought the perfectly black bird was feeding that with the red crown.

An interesting fact has been discovered about the immature plumage in this species; that is, that young females *have red crowns like adult males*, but not of so bright a colour. I ascertained the sex of the birds myself (as I always do) and have no doubt that both No. 3576 and No. 3600 were females. The former (the younger of the two) has all the feathers of the crown and forehead dull red: the latter has only a few red feathers on the crown, and is nearly adult. The young male looks much like the young female, but has black feathers among the red.

Malimbus cassini. [Nga'a-minkan.]
Sharpe, Ibis, 1908, p. 352; Bates, Ibis, 1909, p. 39.
Nos. 3288 ♂ & 3298 ♀. Assobam.
Nos. 4276 ♂ adult; 3799 ♀ & 4538 ♂ immature. All Bitye.

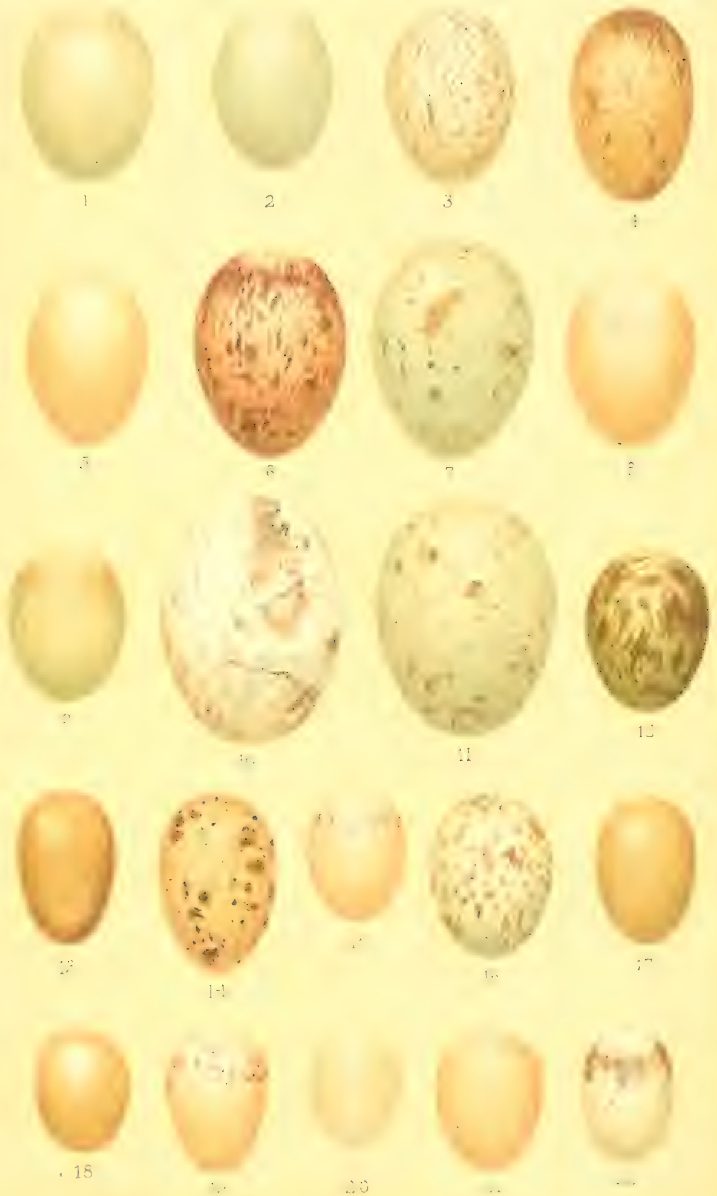
The perfectly black female No. 3298 was shot in the same place and among the same company of birds,—in the trees over my camp at Assobam—as No. 3288, which is *M. cassini*; this fact, and the fact that no male *M. coronatus* was shot at Assobam, is the only reason for considering it the female of the present species; for it is exactly like females of *M. coronatus*. It will be remembered that at Efulen I shot a perfectly black female at the same nest with a male *M. cassini*.

EXPLANATION OF PLATE IX.

Figures of the Eggs of West African Birds.

[The numbers in brackets are those of the eggs, as marked on the egg-shell.]

Fig. 1. *Laniarius luehderi*, p. 538. (No. 289.)
Fig. 2. ,, ,, ,, (No. 287.)
Fig. 3. ,, ,, ,, (No. 549.)
Fig. 4. ,, ,, ,, (No. 568.)
Fig. 5. *Lanius mackinnoni*, p. 540. (No number.) *Cf.* Fig. 8.
Fig. 6. *Malaconotus gabonensis*, p. 540. (No. 281.)
Fig. 7. *Lamprocolius splendidus*, p. 542. (No. 595.) *Cf.* Fig. 11.
Fig. 8. *Lanius mackinnoni*, p. 540. (No number.)
Fig. 9. *Bias musicus*, p. 526. (No. 496.)
Fig. 10. *Caprimulgus batesi*, p. 515. (No. 172.)
Fig. 11. *Lamprocolius splendidus*, p. 542. (No. 110.)
Fig. 12. *Fraseria ocreata*, p. 520. (No. 187.)
Fig. 13. *Pedilorhynchus comitatus*, p. 523. (No. 200.) *Cf.* Fig. 17.
Fig. 14. *Malimbus nitens*, p. 543. (No. 639.)
Fig. 15. *Chloropeta batesi*, p. 524. (No. 395.)
Fig. 16. *Ploceus amaurocephalus*, p. 545. (No. 337.)
Fig. 17. *Pedilorhynchus comitatus*, p. 523. ("d")
Fig. 18. *Alseonax flavipes*, p. 522. (No. 373.)
Fig. 19. *Tchitrea rufo-cinerea*, p. 534. (No. 381.) *Cf.* Fig. 21.
Fig. 20. *Elminia longicauda*, p. 530. (No. 41.)
Fig. 21. *Tchitrea rufo-cinerea*, p. 534. (No. 228.)
Fig. 22. *Diaphorophyia chalybea*, p. 528. (No number.)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H. Grönvold, pinx.

C. Hodges & Son lith.

FIGURES OF EGGS OF WEST AFRICAN BIRDS.

No. 4538, a young male with light bill, has the parts of the plumage that are red in the adult, red and black mixed. No. 3799, a female not quite adult (bill black), has a few red feathers on the throat and chest. It looks as if this young female had had a plumage like that of the young male, but was becoming quite black like the adult females.

MALIMBUS RUBRICOLLIS. [Nga'a-minkan.]
Sharpe, Ibis, 1908, p. 351.
Nos. 4028 & 4339.

Young birds, both certainly females, shot at Bitye, have red on the head, though of a duller hue than in adults; and this red colour *includes the forehead, as in adult males.* In adult females the forehead is black.

PLOCEUS AMAUROCEPHALUS. [Nga'a-minkan.] (Plate IX. fig. 16, egg.)
Sycobrotus amaurocephalus Cab. J. f. O. 1880, p. 349.
Sycobrotus bicolor Sharpe, Ibis, 1908, p. 349.
Ploceus bicolor Bates, Ibis, 1909, p. 42.

No. 3372, young, has the head not so black and the back not so grey as adults.

Another nest of this Weaver brought to me was like those already described. Nests of this species differ from those of *P. cucullatus*, *P. nigerrimus*, and *P. nigricollis* in being rougher, and composed of stems and tendrils; while they have not such a long entrance-tube as those of the different species of *Malimbus*.

With the nest mentioned was brought the sitting female bird, which had been pierced by an arrow while in the nest. There were three eggs (Nos. 337–339), measuring respectively 22·5 × 16, 22 × 16·5, and 22 × 15·5 mm.

[Eggs of a regular oval form, slightly glossy. Ground-colour pale bluish-white, rather sparingly spotted and blotched over the entire shell with various shades of pale brown and lilac-grey.—O.-G.]

[To be continued.]

XIX.—*Note on the Whooper Swans which visit the River Eden in Cumberland.* By The Rev. H. N. Hind.

(Text-figure 15.)

As an instance of wild birds responding to care and attention, where such treatment is afforded them, the following record of some annual visits of Whooper Swans (*Cygnus musicus*) to the city of Carlisle during the past eight years may be of interest to readers of 'The Ibis.'

In December 1904 a Whooper Swan of the year appeared on the River Eden at Carlisle, consorting with the Mute Swans kept by the Corporation of the city. It was first recognised by Mr. D. L. Thorpe, M.B.O.U., and its arrival was soon well known. It became quite tame after a while, and would go to be fed by the park-keeper along with the Mute Swans. It stayed all through the winter, and left on May 8th, 1905.

The bird returned to its winter-quarters at Carlisle on the 16th of November, 1905, and left for its northern home on the 29th of April, 1906. The following winter it returned to Carlisle on the 30th of November, 1906, and it left on the 7th of May, 1907. The bird's next appearance was on February 1st, 1908, this being the latest date of its arrival up to that time. It left again on May 6th, 1908. In 1909 its arrival was later still, namely, on the 28th of February, while it left on April 21st.

The following winter an interesting event happened, for on the 24th of December, 1909, no fewer than four Whoopers appeared, all of them adults.

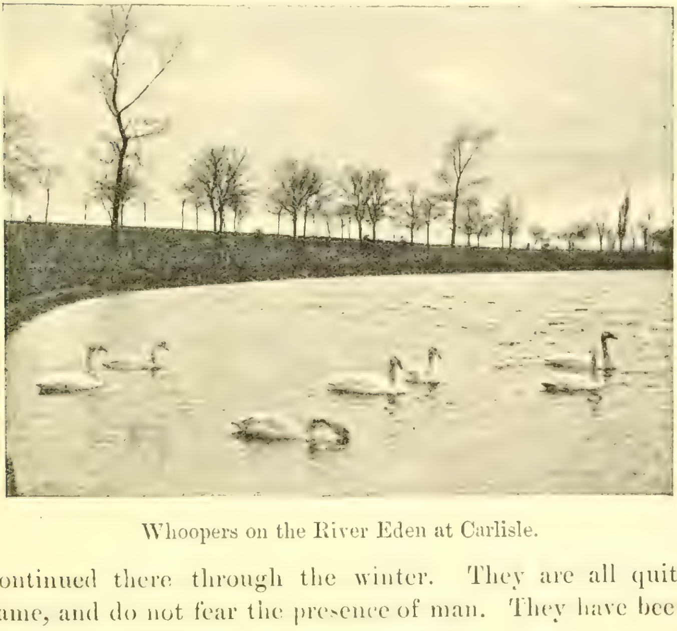
On their arrival they were very shy, with the exception of the old bird that had come for so many winters. This bird came to be fed as usual, but the other three kept aloof in midstream. By the first week in January 1910, the three new comers had gained confidence, and swam up to be fed along with the old Whooper and the Mute Swans, and would allow passers-by to walk within four yards of them before they swam away. One pair of this company of four Whoopers left on the 2nd of April, 1910, the other pair remained at Carlisle for another fortnight.

In the winter of 1910–1911, seven Whoopers arrived at the old haunt at Carlisle on the 16th of November, 1910, and the following day two more came; making nine birds in all.

The herd of seven that arrived on the 16th of November comprised one pair of adults with two cygnets, and one pair of adults with one cygnet. The original bird that had come since 1904 formed one of the latter pair. The two that arrived on the 17th of November were adult birds.

On the 17th of November, however, the pair with the two cygnets flew away; but they returned on the 18th of November with one of the two adults missing. There have been eight Whoopers, therefore, on the Eden at Carlisle, and they have continued there through the winter. They are all quite tame, and do not fear the presence of man. They have been photographed at close quarters repeatedly.

Text-fig. 15.



Whoopers on the River Eden at Carlisle.

There are one or two characteristics of these Carlisle Whoopers that seem worth placing on record. They have been known to come within nine feet of a stranger (not the park-keeper) who offered them bread, and this with a dozen people standing by, not a single bird, but five of them together. Such tameness is surely extraordinary in the case of a wild bird of this description.

Again, the Whoopers are quite masters of the Mute Swans. They chase the domesticated birds away in their eagerness to secure a tit-bit. Even the Whooper cygnets can do this. Their antipathy to strange dogs is another marked peculiarity, though they are perfectly friendly with the park-keeper's black retriever, because they know it. On one occasion a warning "Honk-Honk" greeted a collie dog that was galloping along the river bank. The dog ventured into the water, and was promptly chased out of it by the Whoopers. And this is not a solitary instance of their objection to strange dogs.

Three of these birds left Carlisle on Sunday, the 26th of March last. They were adults, and the five that remained comprised two adults and three cygnets. This happens to be the last date of which I have any record.

These particulars are extracted from notes sent to me by Mr. T. L. Johnston, of Carlisle: the photograph was taken by Canon Bower of the same place.

XX.—*On the Irish Coal-Titmouse* (Parus hibernicus).

By W. R. Ogilvie-Grant, F.Z.S., M.B.O.U.

(Plate X.)

The absence of a proper series of skins of Irish birds has frequently been complained of by those who consult the collection in the Natural History Museum, many species, especially among the Passeres, being either very poorly represented or wanting. For years past I had hoped to make a collecting-trip through Ireland in order to rectify this unsatisfactory state of affairs, but the opportunity for carrying out this scheme never occurred. Recent events, however, in the ornithological world make it imperative that immediate steps should be taken to procure a representative set of our resident Irish species.

It was shewn by Dr. Hartert [Vög. pal. Faun. i. p. 790 (1910)] that the Dipper is represented in Ireland by a perfectly distinct form, for which he proposed the name *Cinclus cinclus hibernicus*. Shortly afterwards I drew attention to the equally interesting fact that the Irish Coal-Titmouse (which I named *Parus hibernicus*) was very different from *P. britannicus*, the representative form of *P. ater* found in Great Britain and also in Co. Down in the north-east of Ireland. More recently, the Irish Jay, also a well-marked insular form, has been described by Mr. Witherby and Dr. Hartert [Witherby's Brit. Birds, iv. p. 234 (1911)] as *Garrulus glandarius hibernicus*. The distinctive characters of the last-named bird had for many years been well known to Mr. R. M. Barrington and other Irish ornithologists, but no one had given it a name.

These interesting discoveries rendered it essential to delay no longer in sending a collector to Ireland to obtain examples of the resident birds from as many different counties as possible.

During short visits paid to Co. Down in the month of January 1904, and again in 1905, I obtained about one hundred and fifty skins, and these represented practically the only series of the resident Irish birds in the National Collection.

Early in January of the present year I sent Mr. A. H. Bishop to Ireland, and, thanks to the kindness of friends, obtained permission for him to visit a number of estates in different parts of the country and to collect without hindrance. He commenced operations in the neighbourhood of Dublin, subsequently moving on to Wicklow, Wexford, Waterford, Kerry, Westmeath, Cavan, and Fermanagh.

During the month he spent on this tour he collected about three hundred skins, mostly of Passerine birds, and among them obtained a fine series of over fifty examples of the

Coal-Titmouse, the bird with which we are at present chiefly concerned. It was important to obtain a representative series of this bird from the various parts of its range, so as to ascertain to what extent, if any, it varied *inter se,* and whether examples of the British Coal-Titmouse occurred in other parts of Ireland besides Co. Down, where I had previously obtained specimens. From Co. Donegal I have recently received several examples of *P. hibernicus.*

On laying out the series of Irish Titmice in geographical order, one is at once struck with their general similarity and distinctive colouring, which enables one, even in their present more or less faded condition, to distinguish them at a glance from an equally large series of Coal-Titmice ranging over Scotland and England, as well as from those mentioned above as having been obtained in Co. Down.

It is unfortunate that in *P. hibernicus* the yellow wash on the sides of the head, nuchal spot, and breast, as well as the cinnamon-colour of the sides and flanks, fades considerably soon after the birds have been skinned, though some specimens retain their colour better than others. No one who has not seen these birds in the flesh can form any idea of how distinct they really are and how bright their coloration is.

The most typical examples of *P. hibernicus* were obtained in Roscommon, Cavan, and Fermanagh.

Among the birds procured by Mr. Bishop there are a few which approach typical examples of *P. britannicus.* One of these was obtained near Dublin, three in Kerry, and Mr. Ussher has recently sent me one from Waterford. It seems probable that the British Coal-Titmouse visits Ireland in winter, and some may possibly remain there to breed, pairing with Irish birds. This would account for the fact that among the large series collected there are some examples which are not quite typical examples of *P. hibernicus.*

The fact that the British Coal-Titmouse also occurs in Ireland and is possibly resident in Co. Down led me at first to accord full specific rank to *P. hibernicus*, but the examination of the large series before me seems to indicate that the two forms to some extent intergrade, and, for this reason, it may now be best to regard the Irish bird as a subspecies only, but a very distinct one.

It is well known that the young of *Parus britannicus* and its near allies differ from the adult birds in having the sides of the head, as well as the breast and belly, washed with yellow. The persistency of this juvenile character in the adult of *P. hibernicus* seems to indicate that it is of very ancient origin, much more so than its British representative: it seems to represent a pre-Glacial type which has survived in the western and southern parts of Ireland.

Parus ledoucii Malh., a species of Coal-Titmouse peculiar to Algeria, is, in many respects, the form most closely allied to the Irish bird. It has the sides of the head and nuchal spot, as well as the breast and belly, strongly washed with mustard-yellow; but the sides of the body and flanks are greyish instead of cinnamon, as in the young of the British Coal-Titmouse and allied forms in first plumage. The Algerian bird thus seems to represent the most primitive type of plumage still to be found in the younger stages of the allied species, while the Irish bird has gone a step further and has added the cinnamon sides and flanks.

The Lusitanian element which is so strongly represented in the west and south-west of Ireland is less noticeable in the Fauna, but is especially remarkable in the Flora. In the Fauna, an instance of this is to be found in the Kerry Slug (*Geomalacus maculosus*). It was first discovered in Kerry, afterwards met with in Cork, and has since been found in Portugal, where other members of this peculiar genus also occur. It has not been met with in any other part of the British Islands. In the Flora there are many Lusitanian species such as *Erica mediterranea* and *Saxifraga geum*, the distribution of which within the British Isles is confined to the west of Ireland. The most interesting of all, however, as bearing on the question of the Irish and Algerian Titmice, is the so-called "Strawberry-Tree" (*Arbutus* *unedo*), which has a wide range in the Mediterranean region and is found in the neighbourhood of Killarney as well as in Algeria.

PARUS HIBERNICUS.

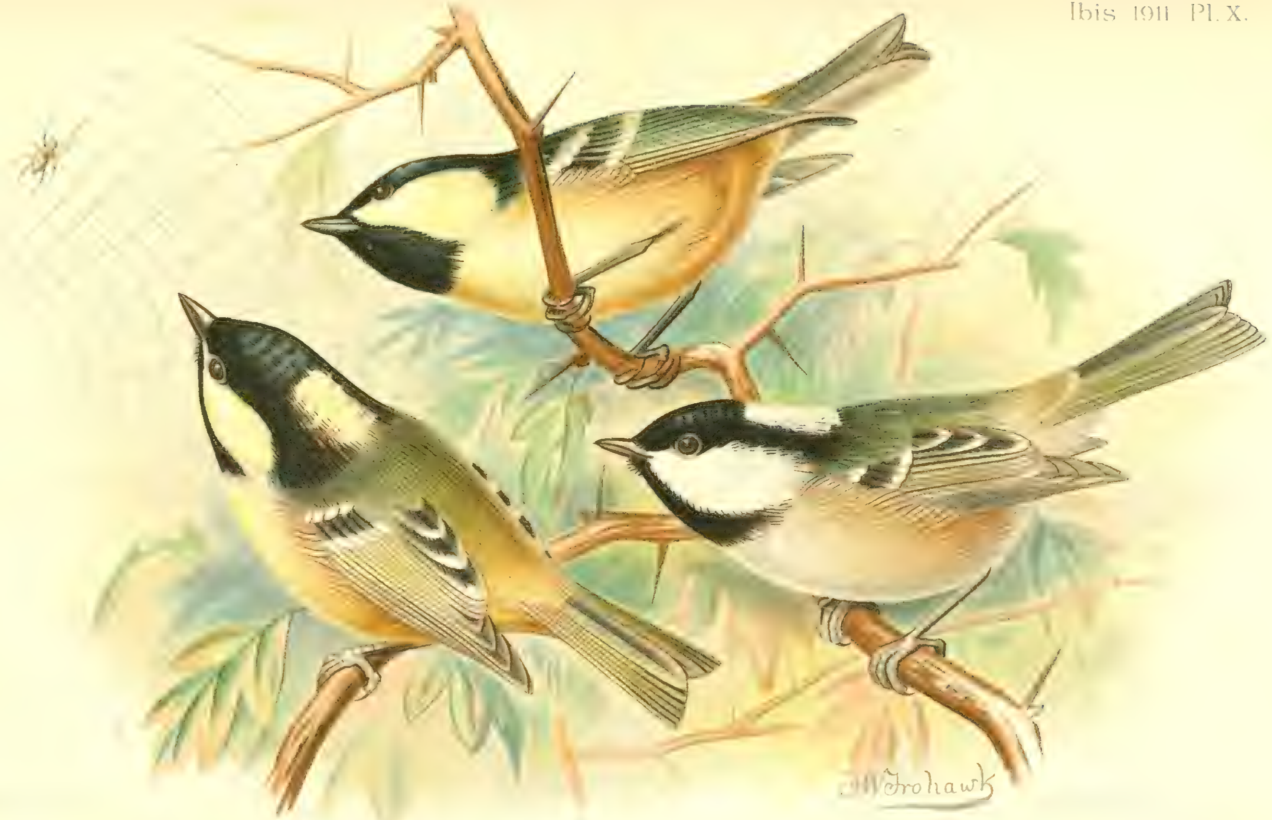
Parus hibernicus Ogilvie-Grant, Bull. B. O. C. xxvii. p. 36 (1910); id. Country Life, xxix. no. 773, p. 99, figs., 21st Jan., 1911; Witherby, in Witherby's Brit. Birds, iv. p. 283 (1911).

The following comparison shews clearly the principal differences in plumage between typical examples of the British and Irish Coal-Titmice:—

Parus britannicus (Pl. X. fig. 3).	*Parus hibernicus* (Pl. X. figs. 1, 2).
Head and neck glossy blue-black, the light patches of feathers on the sides of the head and neck and the nuchal spot *white*.	Head and neck glossy blue-black, the light patches of feathers on the sides of the head and neck and the nuchal spot *pale mustard-yellow*.
Back olive-grey.	Back olive-grey, washed with yellowish cinnamon-colour.
Rump and upper tail-coverts washed with brownish fawn-colour, not forming a marked contrast with the back.	Rump and upper tail-coverts *cinnamon-colour*, in marked contrast with the back.
Breast and belly dull *whitish* or *greyish-white*.	Breast and belly whitish, *washed with pale mustard-yellow*.
Sides of the body and flanks *fawn-colour*.	Sides of the body and flanks *cinnamon-colour*.

The Plate (Pl. X.), which has been drawn by Mr. F. W. Frohawk, shews the differences between freshly killed examples of the British and Irish Coal-Titmice very clearly, but it should be noted that in the most typical Irish birds the flanks are often of a brighter cinnamon in freshly killed examples.

Ibis 1911 Pl. X.



XXI.—*Proceedings at the Annual General Meeting of the British Ornithologists' Union*, 1911.

The Annual General Meeting of the British Ornithologists' Union for 1911 was held at the Offices of the Zoological Society of London in the Outer Circle, Regent's Park (by permission), on May 10th. The Chair was taken, in the unavoidable absence of the President on account of ill-health, by P. L. Sclater, D.Sc., F.R.S.

The Minutes of the last Annual General Meeting were read and confirmed.

The Report of the Committee, which was then read, announced the continued prosperity of the Union during the past year. The Annual Volume of 'The Ibis' for 1910 (the fifty-second of the whole and the fourth of the Ninth Series) had been edited by P. L. Sclater, D.Sc., F.R.S., and Mr. A. H. Evans, M.A. It contained 795 pages and was illustrated with 1 photogravure and 9 coloured plates, 2 maps, and 8 text-figures.

With much regret the Committee reported the deaths of the following Ordinary Members since the last Annual Meeting:—Henry Scherren, Capt. G. E. Shelley, Dr. Thomas Wright, and Dr. A. B. Meyer (Foreign Member).

The following gentlemen had resigned:—Lt.-Col. H. F. Barclay, W. Ruskin Butterfield, E. H. Chapman, Frederick Gillett, Dr. A. Günther, A. E. Learoyd, H. B. Leigh, Lord Lovat, Hon. E. S. Montagu, Heatley Noble, and J. J. Baldwin Young; and the names of three members had been removed under Rules 6 and 7.

At the date of the Meeting the Union consisted of 419 Ordinary Members, 3 Extra-Ordinary, 9 Honorary, 4 Honorary Lady Members, 10 Colonial, and 19 Foreign Members.

The Statement of Accounts for the year ending December 31st, 1910, was then submitted and approved, and a vote of thanks was accorded to Mr. Henry Munt, the Auditor.

The Meeting then proceeded to elect the Officers for the ensuing year, and it was announced that Dr. F. DuCane Godman, F.R.S., had been re-elected President, and Mr. J. Lewis Bonhote, M.A., F.L.S., Secretary; also that Dr. N. F. Ticehurst had been elected a Member of the Committee in the place of Mr. W. R. Ogilvie-Grant, who had retired by rotation.

The following twelve gentlemen were then balloted for and elected Ordinary Members of the Union:—Christopher J. Alexander, 3 Mayfield Road, Tunbridge Wells; Horace G. Alexander, 3 Mayfield Road, Tunbridge Wells; Anthony K. Collett, 5 Stone Buildings, Lincoln's Inn, W.C.; Pelham T. L. Dodsworth, F.Z.S., Carlton Grove, Simla, British India; Edward Hudson, 15 Queen Anne's Gate, S.W.; Reginald Hudson, 16 Warwick Road, Stratford-on-Avon; Edward M. Murray, Woodside, Coupar-Angus, Perthshire; William H. Patterson, 25 Queen's Gate Gardens, S.W.; Charles G. Talbot-Ponsonby, 5 Crown Office Row, Temple, E.C.; Reginald A. Tatton, Cuerden Hall, Preston, Lancs.; A. Landsborough Thomson, Castleton House, Old Aberdeen, Aberdeen; and Hugh G. Tyrwhitt-Drake, F.Z.S., Cobtree, Sandling, Maidstone.

The following two ladies were elected Honorary Members:—Miss Leonora J. Rintoul, Lahill, Largo, Fifeshire; and Miss Evelyn V. Baxter, Roselea, Kirkton of Largo, Fifeshire: and Victor, Ritter von Tschusi zu Schmidhoffen, Villa Tännenhof, bei Hallein, Salzburg, Austria, was elected a Foreign Member.

On the recommendation of the Committee Rule 4 was altered to read as follows, the additions being in italics:—

Rule 4.

> No person shall be balloted for whose name shall not have been proposed on a form provided for the purpose by the Secretary and signed by the Proposer, on his personal knowledge, and by two other Members. *Candidates for Honorary, Foreign, and Colonial Membership shall be proposed by the Committee only. Ordinary Members wishing to recommend Candidates for these honours should communicate with the*

> *Secretary, who will bring the names of their Candidates before the Committee.* The list of Candidates, with their Proposers and Seconders, shall be circulated among the Members *at least fourteen days before the ballot* along with the summonses for the General Meeting.

Mr. Ogilvie-Grant announced that the B.O.U. Expedition to New Guinea was now on its way home, and that it had reached a height of 5000 feet in the Charles Louis Mountains and had made large collections and important discoveries.

The following two motions, brought forward by the Committee, were put to the meeting and carried :—

> "That the Committee consider it desirable that a new edition of the Union's List of British Birds be prepared, and that a small Special Committee be appointed with a view to preparing the same."
>
> "That the following members of the B.O.U. be requested to act on the Committee :—The President, the Editors, and the Secretary; Mr. W. R. Ogilvie-Grant, Mr. H. E. Dresser, Mr. W. Eagle-Clarke, and Dr. N. F. Ticehurst."

On the motion of Mr. Ogilvie-Grant the following resolution was carried unanimously and ordered to be communicated to the Trustees of the British Museum :—

> "That in the opinion of the British Ornithologists' Union it is essential that the whole of the land surrounding the Natural History Museum should be reserved for the extension and expansion of that institution, for which the land was definitely given to the Trustees in 1899, and that it should on no account be appropriated or used for any other purpose. They trust that the proposal recently brought forward by the Office of Works to use this land for other purposes may be reconsidered."

Mr. E. G. B. Meade-Waldo proposed, and Mr. H. M. Wallis seconded, that the Secretary should send a letter to the War Office asking that, if possible, the Territorial Manœuvres proposed to be held in the New Forest during May and June should be postponed until a later date, owing to the disturbance that would be caused to the fauna at that season of the year. This was agreed to.

A vote of thanks to the Zoological Society of London for the use of their Office during the past year was unanimously passed, and the Meeting was adjourned.

After the Meeting the Annual Dinner was held, in conjunction with the monthly Dinner of the British Ornithologist's Club, at Pagani's Restaurant, Great Portland Street.

XXII.—*Obituary.*

Dr. A. B. Meyer, Dr. Carl Parrot, and Mr. W. E. D. Scott.

Dr. Adolf Bernhard Meyer.

Adolf Bernhard Meyer, whose death at Berlin took place on February 5th last, was born in Hamburg in 1840. He studied Medicine and Natural Science in the University of Berlin, and commenced his remarkable career as a scientific traveller and naturalist early in life, devoting himself specially to the Islands of the Eastern Archipelago, where he made many brilliant discoveries. In 1870 he commenced his explorations in Celebes and passed on thence to the Philippine Islands and New Guinea, where he ascended the Arfak Mountains and made a large collection of Birds. Returning to Germany in 1874, Meyer was appointed Director of the Royal Museum of Zoology, Anthropology, and Ethnography at Dresden. In this position he remained for the next thirty years, and made his Museum famous throughout the scientific world for its excellent organization and valuable contents. During this period he published a long series of communications, chiefly relating to Birds, in the 'Journal für Ornithologie,' the 'Proceedings of the Zoological Society,' and 'The Ibis.' As will be seen by reference to our Indexes, the papers which he wrote in this Journal were numerous. Meyer had many English friends and spoke our language excellently. The principal separate works that he published were 'On the Birds of Celebes and the Neighbouring Islands' (in conjunction with his English Assistant, Mr. L. W. Wiglesworth), and his 'Abbildungen der Vogelskeleten.' Next to Ornithology, Anthropology was his favourite pursuit, and he wrote many Ethnological papers.

In 1896, Meyer gave up his position at Dresden and retired to Berlin, where he is said to have been busily engaged in linguistic studies and in various antiquarian explorations. One of Meyer's most useful and most successful pieces of work was his invention of the "Dresden Case." For over twenty years he worked at the construction of an ideal museum-case which should keep out insects and dust, and yet allow the spectator a clear sight of its contents. This was a very difficult problem, but Meyer solved it more nearly than anyone else had done, and "Dresden Cases" of glass and iron are now well known all over the civilized world.

Besides being a member of most of the learned Societies on the Continent, Meyer was a Corresponding Member of the Zoological Society of London (since 1878) and a Foreign Member of our Union (1881), and was always ready to favour his English friends with information.

Dr. Carl Parrot.

Carl Philip August Parrot, the President of the Bavarian Ornithological Society, died at Munich on the 28th of January, 1911, after a short illness. The son of Dr. Jean Parrot, he was born at Castell (Lower Franconia) on the 1st February, 1867, and thus, at the time of his death, wanted only three days of completing his 44th year. After studying Medical Sciences at the Universities of Berlin, Vienna, and Munich, Parrot obtained the degree of M.D. in 1894, and settled as a medical doctor in the latter city. From his earliest youth he professed a strong taste for Natural History, especially Ornithology, and all of his spare time was given to his favourite science. In 1897, Carl Parrot founded the "Ornithologische Verein München," which, a few years afterwards, was transformed into the Ornithological Society of Bavaria, and he remained its President up to the time of his decease. The main object of this organization was the study of the distribution and migration of birds in the Bavarian kingdom, although general ornithological questions were by no means neglected, as may be seen by referring to the various volumes of the 'Jahresbericht' (later 'Verhandlungen') of that Society. It is due to the untiring energy and never-ceasing interest of Dr. Parrot that Bavaria is now provided with a staff of nearly one thousand observers, by whom notices about the appearance and movements of migratory birds are regularly sent in. In later years Parrot took considerable interest in systematic Ornithology, devoting his studies principally to the Palæarctic region. Besides, he published an important memoir upon the birds of the Island of Banka and the Deli district of Sumatra in the Transactions of the Bavarian Academy of Sciences in 1907. The winter of 1909–10 he spent in the Island of Corsica, whence he brought back a considerable collection of birds. The report on the results of his exertions is being published in von Tschusi's 'Ornithologisches Jahrbuch.' Carl Parrot not only was a most painstaking and accurate writer, but also a thoroughly trained field-ornithologist, who knew how to find and how to watch the birds in their haunts. His loss is mourned by a widow and two infant children, as well as by many friends, both at home and abroad. In the Ornithological Society of Bavaria the premature death of Dr. Parrot creates a blank which it will be impossible to fill.—C. E. H.

Mr. W. E. D. Scott.

In the person of William Earle Dodge Scott, Birds have lost one of their most devoted students. Mr. Scott was born in Brooklin, N.Y., in April 1852, the son of Moses Warren and Juliet Ann Scott, and, after attending lectures at Cornell University for a year, entered the Lawrence Scientific School at Harvard as a special student of Natural History.

During Scott's career at Harvard all his spare time was devoted to collecting and observing birds. After graduating (in 1873) he was appointed (in 1875) Curator of the newly founded Museum of Biology at Princeton College. His work at Princeton lasted nearly thirty years, but despite his poor health and somewhat feeble physique he managed to make some interesting and useful excursions during that period.

The winter of 1891–2 was passed in Jamaica. Scott's "Observations on the Birds of Jamaica," which were published in 'The Auk' of 1891, 1892, and 1893, in a series of eight papers, contain a mass of information on this subject, which should be carefully studied by those who are interested in the Ornithology of the Antilles. It gives a complete list of all the Birds of Jamaica known to him (212 in number) and excellent field-notes on their habits. Other excursions, shorter or longer, were made to Florida, Arizona, and Virginia, so that there were few parts of the United States with which Scott did not make himself well acquainted. Details on these excursions and a general account of his adventures in life will be found in his 'Story of a Bird-lover,' one of the most interesting books to Ornithologists that the writer of this Notice has ever read *.

In the spring of 1900 Scott came to England and passed several weeks of study in the Bird-room of the Natural History Museum at South Kensington. Here his English correspondents had the opportunity of making his personal acquaintance, and a more kind, genial, and well-informed

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* See 'Ibis,' 1903, p. 624.

individual (as all agreed) was hardly to be met with. Scott's primary object in this visit was to examine the Patagonian specimens in our National Collection. He had undertaken to work out and describe the birds collected during an expedition sent out by the Princeton University to Patagonia to investigate the Geology and Zoology of that country, and for that purpose it was necessary to see what was to be found in the European Museums. Scott's uncertain state of health sadly interfered with the preparation of his report on this subject, and two parts of it only * have, as yet, been issued.

About 1906 Scott and his wife moved their headquarters to Saranac Lake, N.Y., supposed to be the "Davos" of North America. The following extracts from a letter received from Mrs. Scott will give some idea of his life at this charming place:—

Of the years, four in number, that Mr. Scott spent in Saranac Lake, none were wasted, they were full of interest to the last. His first winter out of doors gave him wonderful familiarity with the resident birds; the Chickadees, Nuthatches, and Blue Jays were his daily visitors, the two former feeding from his hand and awakening him in the early morning by alighting on his head. The red squirrels, too, were persistent in their attentions, and later the chipmunks came regularly for their ration of pea-nuts. The Ruffed Grouse crowded the birch trees close to the door. So there were compensations. Then, as Mr. Scott grew stronger, he made himself familiar with the flora and fauna of the country, and he had particular pleasure in studying the pond-life which is teeming during our short summer. He wrote a series of sketches for the 'Journal of Out-Door-Life,' a publication particularly designed to help the invalids who must live in the open. These charming sketches I hope to have republished in book form.

As you know, Mr. Scott was also busy with his Patagonian record, and that gave him constant satisfaction. He had further projected an elaborate review of all his field-work which it would have taken two or more years to complete. It was also his keen desire to visit Patagonia, where there remains so much to be discovered regarding the bird-life, for he felt that the material at hand only in a small measure revealed the condition of the avifauna, and that practically nothing is known of the life-history of many of the species. Mr. Scott has set forth many of the problems remaining to be studied, and I shall try to have this

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* See 'Ibis,' 1905, p. 130, and 1910, p. 563.

appear in one of the forthcoming volumes. I think you know that the manuscript was left in a nearly complete form, and that the publication will now go on rapidly. It was a matter of keen regret to Mr. Scott that there should have been this long delay, but it was due to no fault of his, but to the fact, I think, that it was not possible to hasten a work involving so many different subjects.

Mr. Scott died, rather suddenly, at his home at Saranac Lake, on the 21st of August, 1910, leaving a widow (Marion Johonot Scott) who, it is stated, is nearly as great a Bird-lover as her late talented husband, and who constantly assisted him in his work.

XXIII.—*Notices of recent Ornithological Publications.*

[Continued from p. 398.]

62. '*Annals' of the Natural History Society of Cyprus.*

[Cyprus Natural History Society, Annals, No. ii. Jan. to Dec. 1910. Nicosia, Cyprus, 1911.]

We are glad to find that the Naturalists of Cyprus are continuing their good work, and have issued a second number of their Annals. It records a "very successful year" in 1910, and the reading of several papers on birds before the Society. The past year has been remarkable, we are told, for a very large number of observations and records, and the names of more than thirty species have been added to the Cyprian List. We will not specify them, as Mr. Bucknill has promised us a special paper on the subject, which we hope to be able to print in our next number.

In this number of the 'Annals' there are also notices on the Mammals, Reptiles, Mollusks, and Lepidoptera of Cyprus.

63. '*Archivum Zoologicum.*'

[Archivum Zoologicum, redactionis curam gerentibus Cs. de Pete, Dr. J. de Madarász et E. Csiki. A laboratorio Zoologico Hungarico editum. Budapest, 1909–10.]

We have already noticed one of Dr. J. v. Madarász's papers in this new Journal (see above, p. 175). We have now received vol. i. no. 2, which contains another paper by the same author. It describes a new *Œdicnemus* from German East Africa, proposed to be called *Œdicnemus csongor*.

64. *Arrigoni's Ornithological Note.*

[Nota ornitologica sopra la recente cattura della *Geocichla sibirica* in Italia. Conte Arrigoni degli Oddi. Atti R. Ist. Veneto, lxx. p. 2 (1910).]

In October 1908 Count Arrigoni obtained in the market at Padua a Thrush which he believes to be a young female of *Turdus sibiricus*, and has had it preserved for his own collection at Ca' Oddo. After an exact description of the specimen, he adds a list of the examples of this Siberian species hitherto recorded in Germany (13), Bohemia (2), Holland (2), Great Britain (2), and France, Belgium, and Norway each once. It is, in fact, an occasional wanderer to Western Europe.

65. '*The Auk.*'

[The Auk. A Quarterly Journal of Ornithology. Vol. xxvii. No. 4, Oct. 1910; Vol. xxviii. Nos. 1, 2, Jan.–April, 1911.]

The most valuable information contained in these three numbers is undoubtedly that given in April on the discovery of the nest and eggs of the Spoon-billed Sandpiper (*Eurynorhynchus pygmæus*) by Mr. J. E. Thayer. Mr. Koren was sent by him to Wrangel Island, but was driven back by storms, and it was left to Capt. F. Kleinschmidt to find the first specimens at Cape Serdze, on the eastern coast of Siberia. Four eggs were obtained, along with the parent bird, as well as eight chicks in down, and our American kinsfolk are heartily to be congratulated on their success. Heads of both adult and young are figured in colour, and all four eggs.

Second in interest to this great discovery are various articles on the Passenger Pigeon by Messrs. A. H. Wright, C. F. Hodge, and F. H. Allen. The first furnishes early records from the writings of the Jesuit Fathers and others referring to many of the United States and to Canada; the second records the failure of the attempts to discover living examples of the bird by the offer of prizes; the third repeats Thoreau's information from his 'Notes on New England Birds.' A translation by S. M. Gronberger of a paper from the Swedish by Pehr Kalm, on the "Wild Pigeons which visit the Southern English Colonies in North America," may be taken in connexion with the others; for this we are indebted to Dr. T. Gill, who unearthed the Swedish original. These articles lead to several notes in the April number (pp. 259-262).

Mr. W. Brewster has a most interesting account in the January number of the manner in which the nuptial plumes of certain Bitterns are displayed; while in that of October Dr. J. A. Allen reviews the Third Edition of the A.O.U. Check-list, and in that of January Mr. F. M. Chapman describes and figures in colour a new species of American Hang-nest (*Icterus fuertesi*) from the Tamesi River in Mexico.

Of distributional papers there is no lack, that of Mr. J. H. Bowles being of the most general interest, as it deals with the extension of range of certain species on the whole Pacific slope. Others are by Mr. A. H. Howell on the birds of the "sunken lands" of S.E. Missouri; by Mr. S. S. Visher on those of Harding County, S. Dakota; by Mr. A. A. Saunders on those of Gallatin County, Montana; by Mr. H. Lacey on those of Kirsville, Texas; by Mr. A. W. Honywill on those of the Lake Region of Minnesota; and by Mr. J. C. Phillips on those of the State of Tamaulipas, Mexico. The last-named describes as new *Strix virgata tamaulipensis, Heleodytes narinosus*, and *Dendrœca æstiva inedita*.

Several papers are contributed by ladies: Mrs. C. J. Stanwood writing on nests of *Dendrœca magnolia*, Mrs. F. M. Bailey on the wild life of an alkaline lake and the Mogollon Mountains in New Mexico, and Mrs. A. R. Sherman on the breeding of Brewster's Warbler in Massachusetts.

Finally, Mr. W. E. C. Todd discusses fully the Bahaman species of *Geothlypis*; Mr. H. W. Wright the Ducks at Boston; Mr. J. C. Phillips the migration of the Anatidæ at Wenham Lake, Massachusetts; Mr. S. P. Fay the Canvas-back in the same State; Mr. N. McClintock the habits of the Hermit-Thrush; Mr. A. H. Norton the occurrences in America of *Larus minutus*; Mr. F. Smith the breeding in Illinois of *Phalacrocorax auritus*; Mr. J. C. Wood the Warblers of Wayne County, Michigan; Mr. A. R. Sherman the nesting-habits of the Screech Owl; Mr. C. H. Kennedy the Sage Thrasher; Messrs. Barbour and Phillips what they term "concealing coloration"; while Mr. J. H. Sage reports on the 28th Meeting of the A. O. U.

66. '*The Avicultural Magazine.*'

[Avicultural Magazine. Third Series, Vol. ii. Nos. 5, 6, 7 (March–May, 1911).]

In a most interesting article, contained in the March number, Sir William Ingram gives an account of his attempt to acclimatize the Greater Bird-of-Paradise in the West Indies. He has bought the island of Little Tobago and turned out forty-eight birds, some of which he hoped might be females, while two others were to be sent later. The report of the Swiss sailor Herold, who acts as caretaker of the 400 acres of forest jungle, of which the island consists, tells us that the birds have spread over the whole area, but never leave it; they eat fruit, insects, and even young birds and eggs of other species. Four only have died, but none have mated. Mr. R. Cosgrave furnishes notes on the Cranes at Lilford Hall, including the breeding of *Grus leucauchen* (pl.), *G. leucogeranus*, and hybrids of *G. canadensis* with *G. viridirostris*; Dr. Butler writes further on the duration of birds' lives in captivity; and Mr. G. M. Mathews on the nests and eggs of some Australian species (*Mirafra milligani*, *Pachycephala melanura*, *P. lanioides*, *Rhipidura alisteri*, *Corvus marianæ*, *Psephotus dulciei*, and *Platycercus ceciliæ*), with a few other notes. We have also the regular Bird-notes from the Zoological Gardens, by the Curator, and a report on the Crystal Palace Bird-show by Messrs. A. Silver and D. Seth-Smith; while the following articles deal with separate species of birds: Mr. F. E. Blaauw on *Bernicla melanoptera* (pl.), Miss Dorien Smith on *Tadorna variegata*, Mr. T. H. Newman on *Columba leuconota* (col. pl.), Mr. H. Willford on *Turacus corythaix* and *Oriolus trailli* (pl.), Mr. P. Galloway on *Dendrocopus minor*, Mr. C. Maxwell on *Cinnyris asiaticus*, Miss K. Currey on *Loxia curvirostra*, Miss A. Hutchinson on *Bucorax cafer*. Articles on practical Bird-keeping treat of Doves (Miss Alderson) and Parrakeets (Mr. Seth-Smith).

67. *Dubois on new Birds from Congoland.*

[Decriptions d'oiseaux nouveaux du Congo Belge, par le Dr. Alph. Dubois. Rev. Franç. d'Ornithologie. No. 22. Février, 1911.]

Dr. Dubois describes three new birds from the Belgian Congo under the names *Dendromus kasaicus*, *Cinnyris chloropygius* var. *pauwelsi*, and *Zosterops virens* var. *reichenowi*. He does not state where the specimens upon which these names are based are to be found, but we presume that they are in the Congo Museum at Tervueren.

68. *Eckhardt on the Migration of Birds.*

[Die geographischen Grundlagen des Vogelzug Problems. Von Dr. Wilh. Eckhardt, Aachen. Petermann's Mitteilungen, 56. Band, 1910, p. 241.]

Ornithology, like other branches of Biology, is closely connected with Geography. We are therefore pleased to find an ornithological article in one of the leading Geographical Journals. Dr. Eckhardt, who has previously written on Bird-migration, gives us here a general sketch of this important subject, but does not appear to have pushed its elucidation much farther, nor to be very well acquainted with some of the recent practical work in connection with it. We cannot believe that the rise and fall of the barometer has so much to do with migration, as some writers have supposed.

69. '*The Emu.*'

[The Emu. A Quarterly Magazine to popularize the Study and Protection of Native Birds. Vol. x. pts. 3, 4, 5. Dec. 1910–April 1911.]

A (special) third part of the tenth volume of our contemporary is devoted to the doings of the session of the Royal Australasian Ornithologists' Union, as it is now by the King's permission to be called, at Brisbane in October 1910. An address was given by Sir William MacGregor, Governor of the State, and another by Mr. A. J. Campbell, as President of the Union. Besides shorter excursions, a large party made an expedition to the Capricorn Islands at the south of the Barrier Reef, while Dr. William MacGillivray subsequently proceeded to the northern groups, Mr. J. W. Mellor to the Blackall Ranges, and Captain S. A. White to Tambourine Mountain.

Accounts are given of all these expeditions, with lists of the species of Birds observed. The White-capped Noddy was very plentiful on the Capricorn Islands, and the Wedge-tailed Petrel proved to be *Puffinus sphenurus* of Gould; Mr. Mellor met with the Rifle-bird, Regent-bird, and Cat-bird of the district; while Captain White found a nest and eggs of the Satin Bower-bird.

Examples of several new species, described by Mr. A. J. Campbell, had been collected in North-Western Australia by Mr. G. F. Hill for Mr. H. L. White, namely, *Falcunculus whitei*, *Ptilotis planasi*, and *Micrœca brunneicauda* from Napier, Broome Bay, and *Eopsaltria hilli* from Hecla Island; while Mr. D. Le Souef also described as new *Trichoglossus colesi* from Gladstone in Queensland.

In this part, moreover, Mr. K. Broadbent writes on Birds observed in the Cardwell and Herbert River Districts in 1887 and 1889, and calls attention to the habits of *Scenopœetes dentirostris*, *Scythrops novæ-hollandiæ*, and *Megapodius duperreyi*.

In Part 4 we have an excellent paper, full of information, entitled "Field-Notes on the Birds of Kimberley, North-

West Australia," by Mr. G. F. Hill, already mentioned, and another new species described from his collection, *Erythrotriorchis rufotibia.* Mr. A. F. Basset Hull writes on the breeding of *Œstrelata leucoptera* on Cabbagetree Island, N.S.W., where Gould formerly recorded the bird; Mr. H. L. White describes the nest and eggs of *Calamanthus montanellus,* and Mr. E. Ashby a new species, *Ephthianura lovensis,* from Leigh's Creek, S.A.

In Part 5, Mr. F. L. Whitlock gives us his observations on the birds of the Stirling Ranges, Western Australia. In particular, he met with *Calamanthus montanellus, Malurus pulcherrimus,* and *Melithreptus leucogenys,* and obtained nests and eggs of the two former for Mr. H. L. White, who was responsible for the expedition.

A paper by Mr. G. M. Mathews should be carefully studied by all working at Australian birds, as it gives alterations in nomenclature required to bring his "Hand-list" up to date, while he accepts all the rules of the International Congresses. Mr. S. W. Jackson writes on the haunts of *Atrichornis rufescens* in the "scrubs" of New South Wales, where he found the nest and eggs, but failed to procure the female. Finally, Mr. H. L. White describes as new the eggs of *Cracticus mentalis, Xanthotis filigera, Trichoglossus septentrionalis,* and *Halcyon barnardi,* all from Cape York, Queensland.

70. *Flower's List of Animals in the Giza Gardens.*

[Government of Egypt. Public Works Department. Zoological Gardens, Giza, near Cairo. Special Report, No. 5. List of Animals (2nd edition). By Stanley S. Flower, Director. Price Five Shillings. Cairo National Printing Department, 1910. 1 vol. 8vo. 372 pages, 20 plates.]

Our friend, Capt. Flower, ever active, sends us a copy of a new edition of his list of the animals now (or lately) living in the beautiful Gardens at Giza, near Cairo, of which he is Director. Besides the scientific names the List contains the vernacular name of each bird in English, French, German, and Arabic (where it has one), and much other useful information, especially as regards the length of life of specimens in the Gardens.

The Mammals are naturally the most important group in the Giza Gardens, as in all other collections of living animals—they number 273 species; but the Birds are still more numerous, we find 420 species registered. These species are mostly such as are (or have been) exhibited in the Regent's Park, but some of them are not to be found in the Zoological Society's Catalogue, e. g., *Sylvia rueppelli, Acrocephalus stentoreus, Dinimellia dinimelli,* and *Ibis hagedash.*

The volume is well and correctly printed, on good paper, and in every respect does credit to Cairo. One more advantage is that among the scientific names there are very few trinomials!

71. *Grinnell on the Birds of the Campus of the University of California.*

[Birds of the University Campus. By Joseph Grinnell. University of California Chronicle, xiii. No. 1 (1911).]

The campus of the University of California at Berkeley, containing about 530 acres, has been carefully watched by Mr. Grinnell since August 1908, and the birds observed on it have been noted. Mr. Grinnell has recognized permanent residents 31, winter visitants 21, summer visitants 21, transients 3—total 76 species. The total "Avian Population" of the campus is estimated at 10,000.

72. *Hall on the Distribution of Australian Land-birds.*

[The Distribution of Australian Land-birds. By Robert Hall, C.M.Z.S., M.B.O.U. Proc. Roy. Soc. Tasmania, 1910.]

In 1906 Mr. Hall had indicated what he considered to be the lines of the geographical distribution of the Passerine Birds in Australia, and the chief direction of their expansion over that continent. In the present paper he proposes to make some corrections to his former statements. He still adheres to the view that almost the whole of the present Avifauna had its origin in the Papuan Subregion and entered

Australia from the north-east, but that a few of the genera (such as *Mirafra*, *Pomatostomus*, and *Xerophila*) arrived by an ancient bridge that formerly connected Timor with the Australian continent.

These views are fully explained in the present paper, and accompanied by tables of the genera on which they are based.

73. *Jackson on the Game-birds of East Africa.*

[Game-birds of the East-Africa and Uganda Protectorates. By F. J. Jackson. Journ. E. Afr. and Uganda Nat. Hist. Soc. vol. i. p. 60.]

We are glad to receive a copy of the second number [*] of this newly-established Society's Journal. The Fauna and Flora of our new Protectorates are so rich, and their physical features are so varied, that there is an enormous field of work for those who take an interest in Natural History. Mr. Jackson, than whom we suppose no one is better acquainted with the Birds of British East Africa and Uganda, continues in a second paper his account of the "Game-birds" of these countries. Under this title are included members of four different groups—Quails, Guinea-fowls, Hemipodes, and Sand-Grouse, which altogether number 18 species in East Africa. To these should be added the 16 Francolins described by Mr. Jackson in his first article on this subject, which makes the so-called "Game-birds" of East Africa 34 in number.

74. *Kirkman on British Birds.*

[The British Bird Book. Edited by F. B. Kirkman. London and Edinburgh: T. C. & E. C. Jack. Sections ii.–iv.]

The three parts of this quarto publication now before us contain the Buntings, Larks, Wagtails, Pipits, the Creeper, the Wren, the Dipper, the Thrushes, the Warblers, the Hedge-Sparrow, the Starlings, the Oriole, and the Waxwing. The descriptions by Mr. Pycraft are, as usual, good, if rather long for the tyro, and the life-histories of the birds are well written, and often excellent, though even these might with advantage be shorter in the case of some of the commoner species. The nest and eggs are the special province of Mr. Jourdain, and the migration falls chiefly to Mr. Thomson, but no invariable rule is adopted, and Messrs. Pycraft and Bonhote between them contribute several articles. A pleasing feature in the book is the introduction of pretty photographs of nests with their surroundings and often with the parent birds; while the coloured plates of eggs by Mr. Grönvold are excellent. About the other coloured plates, which are fanciful and unnatural, the less said the better.

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[*] *Cf.* 'Ibis,' 1910, p. 748.

75. *Mathews on the Birds of Australia.*

[The Birds of Australia. By Gregory M. Mathews. Vol. i. pt. 3. London: Witherby & Co., April 1911.]

This part of Mr. Mathews's fine work concludes the Pigeons, all of which are figured except *Geophaps shortridgei* (which the author believes to be a hybrid between *G. tranquilla* and *G. cuneata*) and *Lophophaps leucogaster*.

The genera treated are *Chalcophaps* (with the species *C. chrysochlora* and the subspecies *C. longirostris*), *Phaps* (*P. elegans* and *P. chalcoptera*), *Histriophaps* (*H. histrionica*), *Petrophassa* (*P. albipennis* and *P. rufipennis*), *Geophaps* (*G. scripta* and *G. smithii*), *Lophophaps* (*L. ferruginea*, *L. plumifera*, and its subspecies *L. p. leucogaster*), *Ocyphaps* (*O. lophotes*), and *Leucosarcia* (*L. melanoleuca*). The last-named has its name changed from *L. picata*, in accordance with Mr. Mathews's views on strict priority. Moreover, he considers the *Chalcophaps occidentalis* of North identical with *C. longirostris* of Gould, while he corrects the locality of the original describer in such cases as *Phaps chalcoptera*. We notice that the names on some of the plates do not correspond with the letterpress, but we understand that the plates were printed off in advance and that corrections in the text were inevitable. The same may be said with regard to the colours of the soft parts, where further information has been procured. *Petrophassa rufipennis* is only the second Australian

Pigeon of which the author has been unable to describe the breeding.

76. *Menegaux on the Birds of Ecuador.*

[Mission du Service géographique de l'Armée pour la mésure d'un Arc de Méridien Equatorial en Amérique du Sud, sous la Contrôle scientifique de l'Académie des Sciences de France 1899–1906. Étude des oiseaux de l'Equateur rapportés par le Dr. Rivet. Par A. Menegaux. 4to. 128 pp.]

The French scientific mission, sent out to Quito in 1899 to examine the arc of the meridian under the Equator measured in the seventeenth century, was accompanied by Dr. Rivet as medical officer. Dr. Rivet, during the five years that he stayed in Ecuador, made a collection of birds of which M. Menegaux gives us an account in the present memoir. The collection consists of 885 specimens, belonging to 290 species.

The philosophers of the 17th century did not pay much attention to Birds, and nothing is recorded by our author concerning the Avifauna of Ecuador until Sclater's publication in 1854 of an essay on the Birds of the province of Quixos. This was quickly followed by a series of papers on the birds of Ecuador collected by Louis Fraser, under Sclater's instructions and at his expense; Buckley, Stubel and Wolf, Jelski, Stolzmann, Rosenberg, and Goodfellow followed Fraser's steps, and were so successful that we find only *one* species (*Philydor columbianus*) described as new to science in the present memoir.

There are no collectors' notes given by M. Menegaux, nor are the exact localities of the specimens brought home always stated. But the memoir will be useful to those who are studying the Bird-life of the adjoining republics, and would have been still more useful if it had been accompanied by a map.

Four coloured plates represent *Tinamus latifrons*, *Odontophorus melanonotus*, *Grallaria gigantea*, and *Philydor columbianus riveti*; and a useful list of previous writings on the Birds of Ecuador is given.

77. *North on the Nests and Eggs of Australian Birds.*

[Nests and Eggs of Birds found breeding in Australia and Tasmania. By Alfred J. North, C.M.Z.S. Vol. iii. Part 1.[*] Sydney, 1911.]

We have received another part of this valuable work. In it the account of the Australian Cuckoos is finished and that of the Parrots is commenced. Many interesting particulars are given concerning the breeding-habits of the Australian Cuckoos. It appears to be now quite settled that *Cuculus inornatus* in some cases feeds its own young. A startling picture, taken from a photograph, is given of "Fred" (an Australian aboriginal) taking a nest of the Blue-tailed Lorrikeet.

78. *Percival on European Migrants in British East Africa.*

[European Migrants in British East Africa. By A. B. Percival. Journ. E. Afr. Nat. Hist. Soc. vol. i. p. 101 (1911).]

This is a nicely written paper upon a very interesting subject, and Mr. Percival deserves our thanks for calling attention to it. British East Africa, he reminds us, is halfway between the winter and summer residences of many European migrants, and a series of dates when birds pass through it on their southern journey, and again on their return trip, would be of great importance. Mr. Percival, whose business it is to wander about the country as Game-warden, has excellent opportunities for occasionally turning his attention to Birds, and invites his brother-members of the Natural History Society of East Africa and Uganda to aid him in this task. We trust that they will follow his excellent advice.

Mr. William Sclater read a paper on South-African migration before the British Association in 1905, and Mr. Percival copies Mr. Sclater's list of migrants and makes remarks on it. At least ninety species of the South-African Avifauna are known to go north every year to breed in Northern Europe and Asia, and must necessarily pass through Africa on their journey. It is probable that a large proportion of these take the British East African route, where Mr. Percival assures us that migrants, especially Waders, are abundant in October and March.

---

[*] See 'Ibis,' 1910, p. 367, for notice of vol. ii. Part 3.

79. *Salvadori on a new Albatross.*

[T. Salvadori. Specie apparentemente nuova del genere *Thalassogeron.* Boll. Mus. Zool. ed Anatomia comp. Univ. Torino, xxxvi. No. 638.]

Count Salvadori bases his new Albatross (*Thalassogeron desolationis*) on a specimen in the Turin Museum obtained at Desolation Island in the Magellan Straits, near the Pacific entrance. It is most nearly allied to *T. culminatus.*

80. *Thayer and Bangs on new Birds from China.*

[Descriptions of new Birds from Central China. By John E. Thayer and Outram Bangs. Bull. Mus. Comp. Zool. vol. lii. no. 8.]

From a collection of 3000 skins made by Mr. W. R. Zappey in the Province of Hupeh, Central China, the following are described as new:—*Callocalia fusciphaga* (qu. *faciphaga?*) *capnitis, C. inopina, Turdus cardis lateus, Parus major artatus, Nucifraga hemispila macella, Cyornis tickelliæ glaucicomans, Niltava lychnis,* and *Cyanoptila cumatilis.*

XXIV.—*Letters, Extracts, and Notes.*

We have received the following letters addressed to the Editors:—

Sirs,—You will be glad to hear that the magnificent collection of African birds formed by the late Mr. Boyd Alexander during his travels, and bequeathed by him to the Natural History Museum, has now been handed over to that Institution by his brother, Mr. Robert Alexander, as executor.

It includes the collections formed during his expeditions to the Cape Verde Islands, the Zambesi and Kafué Rivers, the Gold Coast Colony, and the Island of Fernando Po, as well as that made during his memorable journey in 1904–07 from the Niger to the Nile. It likewise contains the whole of the birds obtained during his last expedition to the islands of San Thomé, Principe, and Annobon in the Gulf of Guinea; on the Peak of Cameroon and mountains to the north of it, and in Wadai, up to the time of his death.

It would be difficult to over-estimate the value of the Alexander Collection to the Natural History Museum, for it supplies beautifully prepared and complete series of the Avifauna of islands and countries hitherto very imperfectly represented in the National Collection of Birds. The bequest comprises nearly four thousand bird-skins, and includes the type-specimens of no fewer than eighty-four species described for the first time by the late Mr. Alexander in his papers published in 'The Ibis' and elsewhere. Many of these new species were previously not represented in the National Collection.

I am, Sirs,
Yours &c.,
W. R. OGILVIE-GRANT.

British Museum (Natural History),
May 27th, 1911.

SIRS,—I have the pleasure of informing the readers of 'The Ibis' that, a few days ago, the Zoological Society of Munich received, in a small collection of birds from Katanga, Congo State, a fine example of *Balæniceps rex*. The bird, a perfectly adult male in ashy plumage, was shot, in July 1909, in the papyrus-swamps of Lake Kisale, on the Upper Lualaba (Congo), by Captain Michell and kindly presented by him to this Museum. I believe it is the first authentic record of this species from the Congo State, although its occurrence in that district was to be expected (see Sir Harry Johnston's note in 'Ibis,' 1902, p. 335), and extends its known range considerably to the south. According to Captain Michell, the Whale-headed Stork, named

"Mututa" by the natives, is very rarely met with on the Upper Congo.

I am, Sirs,
Yours &c.,
C. E. Hellmayr.

Zoological Museum, Munich,
June 15th, 1911.

Sirs,—I read with much interest Mr. Bannerman's letter from Gran Canaria. When in Gran Canaria in May 1910, I made a point of studying the bird-life. It was on the 14th of the month that I first saw the Teydean Finches—two male birds—at Teror, a village situated amongst the hills in the east of the island. It was on the mountain side where some fruit-trees were growing, and well below where there were pines. The Finches were sitting very quietly, and they only flew away when I approached nearer to get a better view of them.

I notice in Dr. Godman's 'Monograph of the Petrels' that he says little of the habits of the Petrel *Oceanodroma castro*. I had these birds under my observation for a whole day in the Canary seas—the 5th of May, 1910. I first noticed them when about 75 miles off Madeira. Sometimes only one and sometimes four together were in the wake of the vessel; they were by no means shy, and frequently came so close that you could see their eyes. They kept flitting athwart the wake of the steamer most of the day; they had all the action of the House-Martin (*Hirundo urbica*) and were like magnified forms of it. They never flew more than seven feet or so from the surface of the water; I never saw them alight on the sea. I never heard them making any sound.

I am, Sirs,
Yours &c.,
William Serle.

The Manse,
Duddingston, Edinburgh,
June 13th, 1911.

Sirs,—Some time ago Mr. Eagle Clarke took to Tring the wing of a small species of *Phylloscopus* in order to identify the bird to which it belonged, but there was no species represented in the Tring Museum with which it could be compared. I have several times told Mr. Eagle Clarke that I was myself personally satisfied that I had diagnosed it correctly as belonging to the rare *P. neglectus* of Hume, which that ornithologist found in Cashmere. I have the other wing here. It absolutely agrees in the formula of the wing-pattern with Mr. H. E. Dresser's formula given in his 'Birds of the Eastern Palæarctic Region' (p. 98). The specimen of which these are the wings was shot in Tiree by Mr. Peter Anderson and sent in the flesh to me. But the Post Office stamper had utterly destroyed it, crushing in both head and most of the back, whilst part of the tail-feathers had been shot away. Only the wings were saved. The feathers of the lower back shewed a dusky *brownish olive—not greenish olive.* In the crushed head there was *just* the suspicion of a pale superciliary streak. There are no wing-bars.

Should my diagnosis, from the wing alone, be correct, I think I may claim to have here recorded the first occurrence of this species in Britain, and *perhaps* its first occurrence in Europe. The only specimens known to me are Hume's own specimens in the British Museum, and Dresser's, now in the Manchester Museum. Mr. T. Davidson—of Edinburgh—tells me that he has the eggs, but never obtained a specimen of the bird. I fancy that I once possessed a specimen, but whence it came I cannot now recollect.

I am, Sirs,
Yours &c.,
J. A. Harvie-Brown.

Dunipace House,
Larbert, N.B.,
17th June, 1911.

Mr. Brook's Paradise-birds.—Mr. E. J. Brook, of Hoddam Castle, Ecclefechan, N.B., who has a very fine collection of living Paradise-birds, writes to Mr. Ogilvie-Grant as follows:—

"You have heard, I think, that my Rifle-birds (*Ptilorhis intercedens*) from British New Guinea, brought home by Mr. Goodfellow, have laid two eggs, both of which, however, were accidentally broken. I hope that the hen will lay again, but at present she shews very few signs of building a nest.

"I have discovered another thing that will interest you, viz., that the hen of this bird has the same voice as the cock, only not so strong. She also dances and displays before the male with much the same actions as his. It is a very curious sight to see the two birds dancing a solemn minuet together."

Col. Roosevelt's East-African Expedition.—We learn from the 'Smithsonian Report,' lately issued, that the Zoological collections made by Col. Roosevelt's Expedition to East Africa have reached Washington in excellent condition, and have been deposited in the National Museum of the U.S. The collection of Birds is said to contain nearly 4000 specimens. We venture to express a hope that the Ornithologist who undertakes the determination and description of this large and important collection will be authorized to visit the collection at South Kensington, where there is a very extensive series of specimens from British East Africa and Uganda. The large private collection of Mr. F. J. Jackson is, we believe, also deposited there, and would be probably available for comparison.

The Expedition of the B.O.U. into Central New Guinea.—In consequence of the proved impossibility of reaching the snow-fields of New Guinea by the route on which the explorers had started, and which had been specially selected, as likely to be the most advantageous, it was resolved, after a final unsuccessful effort, to give up the expedition and to return home. As the wet season was coming on, this was, probably, the wisest course to be pursued. The travellers are now, therefore, safe in England, and Capt. Rawling gave an account of their explorations and adventures at the meeting of the Royal Geographical Society held on July 3rd.

The collection of birds made by the expedition in New Guinea has reached the Natural History Museum, South Kensington. It contains about 2300 skins. Besides this there is a series of about 450 specimens from Ceram and of about 200 from Borneo.

Mr. Beebe's Expedition.—In the Fifteenth Report of the New York Zoological Society (1910) we are informed that funds have been provided by a private donor for an expedition to procure "living and dead specimens of the known species of Pheasants, and to study those birds in their native environment."

The expedition, under Mr. C. W. Beebe, Curator of Birds in the Society's Zoological Park, left New York on Dec. 29th, 1909, and began field-work in Ceylon. India was next visited, and the foot-hills of the Himalayas were searched for specimens. From India the party went to Singapore, making that city the base for excursions to Borneo, Java, and Burmah. The expedition is now, we believe, in Central China, and, after a visit to Japan, will return to New York this summer.

The Zoological Museum at Munich.—Under the energetic influence of the Custos of the Ornithological Section of the State Museum at Munich, Dr. C. E. Hellmayr, great additions have been lately made to the Collection of Birds, especially from South America. These are described in an article in the 10th volume of the 'Verhandlungen' of the Ornithological Society of Bavaria. In 1909 and 1910, 8735 specimens of Birds were added to the series, amongst which were 649 from Western Columbia, obtained by

Mr. Mervyn G. Palmer, and a portion of the collection made by the late Mr. Hoffmans on the Rio Madeira. Besides these, other contributions were received from Cayenne, Venezuela, Argentina, and Peru, and 636 skins from Lower Amazonia, amongst which were fourteen examples of the brilliant *Pipra opalizans* and other rarities.

Army Manœuvres in the New Forest.—An influentially signed memorial has been prepared with reference to the military manœuvres in the New Forest. The signatories point out that May and June are exactly those months of the whole year in which non-disturbance is of vital importance to the birds, insects, and plants which give to the New Forest its unique interest not only for men of science, but for the increasing numbers of their fellow-countrymen who take an interest in Natural History. The damage done by bodies of troops during this period must inevitably result in a destruction of the wild life of this area that can never again be repaired. While, therefore, they recognise on patriotic grounds that manœuvres must be held, they express the wish that wild tracts of the country other than the New Forest might be utilised for the purpose; but, if this cannot be, they desire to place on record their earnest hope that future manœuvres may at any rate be deferred until after July 15, when less harm would be done.

The letter is signed by Lord Avebury, Sir Archibald Geikie (President of the Royal Society), Sir E. Ray Lankester, Dr. Sidney Harmer, Dr. Alfred Russel Wallace, Sir Edmund Loder, Dr. Chalmers Mitchell, Sir Joseph Hooker, Dr. D. H. Scott (President of the Linnean Society), Professor Sydney Vines, Professor Poulton, Dr. P. L. Sclater, Mr. Henry Elwes, Mr. E. G. Meade-Waldo, Mr. J. G. Millais, Mr. Eric Parker, Mr. J. E. Harting, and a large number of Members of the Zoological and Linnean Societies and of the Royal Society for the Protection of Birds.—'The Field,' June 10th, 1911, p. 1149.

New Work on South-American Birds.—Lord Brabourne, F.Z.S., M.B.O.U., and Mr. Charles Chubb, F.Z.S., M.B.O.U. (of the Zoological Department, British Museum), have undertaken a difficult task—which, however, we trust they will be able to carry to a successful conclusion—the preparation of a new work on the Birds of South America. When completed it will consist of sixteen volumes of quarto size illustrated by coloured plates drawn by Grönvold. The first volume will contain a List of the Birds of South America. This is well advanced. Volume II., containing the first portion of the general work, will be issued early in 1912, and subsequent volumes at intervals of about nine months, each volume consisting of about 300 pages and of from 25 to 30 plates.

The only work on this large subject is the 'Nomenclator Avium Neotropicalium' of Sclater & Salvin, published in 1873. This gives a List of the Names of the Birds then known to the authors as being met with in South and Central America. It contains the names of 3560 species. But enormous additions, as we are all aware, have, of late years, been made to our knowledge of this subject—particularly since the introduction of "trinomials." We suspect the named species and subspecies of the Neotropical Ornis are now likely to be at least 5000, even if they do not exceed that number.

The Honey-bird in North-East Rhodesia.—"One morning when we had paused for breakfast (near the River Chambezi), a little Honey-bird flew to a tree quite near me and began calling in a very excited manner. One of the boys whistled in reply. Then the bird flew away and the boy, quickly running, disappeared also. He did not return for quite an hour—in fact, I was just thinking of moving on without him, when with flashing eyes and a broad grin he appeared at my side and offered me a large honeycomb filled with honey. With gestures and whistlings he showed me how he had run, and how, finally, the little bird had led him to a tree up which he had climbed to find the honeycomb in a hole in the trunk."—'Viâ Rhodesia,' by Charlotte Mansfield, p. 268.

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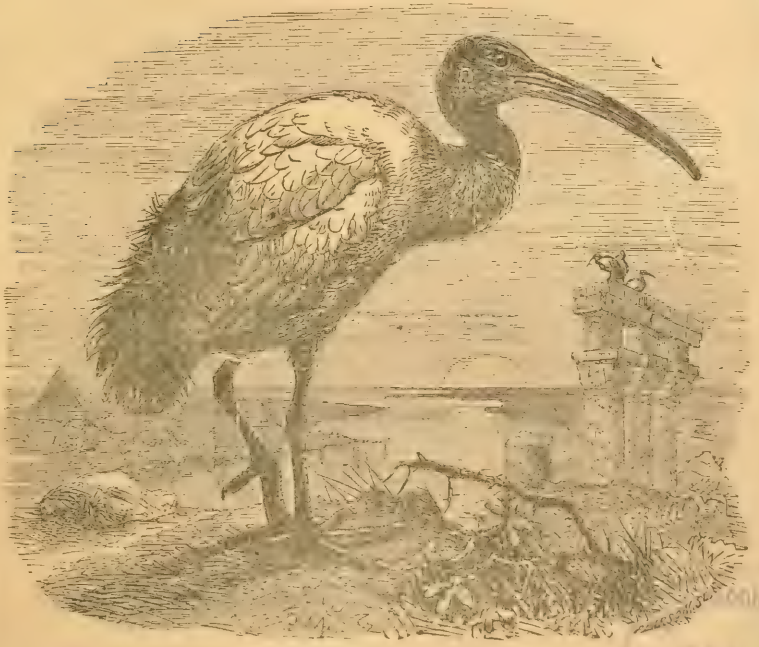

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J. LEWIS BONHOTE,
Secretary.

Offices of the Zoological Society of London,
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No. XX. OCTOBER 1911.

XXV.—*Further Notes on the Birds of Southern Cameroon.*—Part II. By G. L. Bates, M.B.O.U. *With Descriptions of the Eggs by* W. R. Ogilvie-Grant, M.B.O.U.

(Plates XI. & XII. and Text-figs. 16–21.)

[Concluded from above, p. 545.]

Ploceus preussi.

Reichenow, Jour. f. Orn. 1892, p. 442; V. A. iii. p. 36.

Phormoplectes dorso-maculatus (*nec* Reich.), Sharpe, Ibis, 1908, p. 349; Bates, Ibis, 1909, p. 43.

Nos. 2341, 2438, 2826, 3685. All ♂ ad. Bitye.

No. 3364, ♂ ad., and 3363, ♀ ad. Assobam.

No. 4122, ♀ ad., and No. 2439, young. Bitye.

The young bird has no black on the head, the chin and sides of the head being brownish-yellow or yellow, like the rest of the plumage.

Ploceus dorso-maculatus.

Reich. V. A. iii. p. 37.

No. 3017, ♂ ad.; No. 3016, ♀ ad. Bitye, 18th Aug., 1908.

The female (No. 3016) agrees in most respects with Reichenow's description, but has more yellow on the nape and back (a character which is probably variable); the dark parts of the plumage deep black, not "braunschwarz" (a discrepancy possibly accounted for by the more worn condition of the plumage in the type); and the bill black, instead of pale grey, as in the type. The measurements are also a trifle greater:—bill 17, wing 79 mm.

The male (No. 3017), undoubtedly the mate of No. 3016—they were in company when shot, and both had enlarged breeding-organs,—is a bird of exactly the same size as the female, and is similarly coloured except on the head. It has the forehead and crown golden-yellow instead of black, and the middle of the throat is black, like the rest of the plumage.

The male of this species is here described for the first time.

PLOCEUS NIGRICOLLIS. [Ngas.]

Bates, Ibis, 1909, p. 43.

Nests of the Ngas have been found, with eggs or nestlings, in eight different months of the year, and in all four seasons; but the greatest numbers were observed in August and September at the beginning of the principal rainy season, and somewhat smaller numbers in March at the beginning of the "little" rainy season. Insect food is probably most abundant in the rainy seasons. During the last two and a half years spent at Bitye, thirty Ngas's nests have been brought to me with the sitting birds, usually caught at night in the nest, but sometimes shot with bow and arrow in the nest. Some nests contained nestlings, others broken eggs; but I have saved twenty-nine eggs as specimens. Only one clutch contained more than two eggs.

These nests all shew certain characteristics distinguishing them from those of other Weavers. They are a little smaller than those of *Ploceus amaurocephalus* and have well-formed entrance-tubes, usually extending from two to five inches below the bottom of the nest. They are always composed of the slender, tough, dry runners of the Convolvulaceæ, which grow abundantly in *bikötök,* and sometimes have grass interwoven. One nest was attached to a twig which had a wreath like the beginning of another nest higher up, as if the bird had begun to build there, and then left that place and gone farther down on the twig. This wreath shews how a nest is begun—in the same manner as that described for *Ploceus cucullatus* ('Ibis,' 1909, p. 45).

My series of eggs shews a remarkable variation in colour and markings; but in one case only did those in the same nest differ. Two eggs (Nos. 284 & 285), one pure white, the other speckled, were found in the same nest. Even in this case I have reason to believe that they were not laid by the same bird; for, though the boy found three eggs in the nest, and one got broken, only two very distinct empty egg-sheaths were found in the bird's ovary, shewing that she had laid only two eggs. Another hen Ngas must therefore have laid an egg in the nest.

Most of the twenty-nine eggs vary little in size, the average measurements being 21 × 14 mm. One very elongate specimen (No. 464) was 23 × 14 mm. Two very small eggs (Nos. 540 & 541 from one nest) measured, respectively, 19 × 13·5 and 18 × 13·5 mm.

[In addition to the types already described ('Ibis,' 1909, p. 44), the more recent collections contain a number of examples which are uniform pale greenish blue.—W. R. O.-G.]

Nestlings have the inside of the mouth flesh-red-yellowish when very young, and the smaller margins of the gape white.

PLOCEUS OCULARIUS.

Reich. V. A. iii. p. 45.

Sitagra ocularia Grant, Trans. Zool. Soc. xix. p. 280.

Nos. 2770, 3763, 4134. All ♀ ad. Bitye.

Nos. 3578, 4168, 4277. All ♂ ad. Bitye.

Nos. 3804, 4262. Young. Bitye.

All of my specimens have the crown a little greener and the pure yellow of the forehead less extended than in specimens of *P. ocularius* from Ruwenzori and South Africa; otherwise they are similar. They are not *Ploceus brachypterus*. The young birds have no black about the eyes, and the bills are of a pale yellowish-horn-colour. This species is not very rare, and is found in *bikôtôk* or in grassy places.

No. 3763, a female shewing evidence of sitting, was brought to me with a nest in which it had been shot with bow and arrow. This nest differed from those of the other common species of *Ploceus* in that it was not attached at the sides, but suspended by a sort of woven stem, while in the shortness of the entrance-tube it resembled nests of *P. nigerrimus*. The material used was apparently very narrow strips of palm-leaf. The two eggs in the nest (Nos. 236 & 237) measure respectively 21·5 × 15 and 21 × 14·5 mm.

[The eggs are of a regular oval form and without gloss. The ground-colour is pale greenish-blue, rather sparingly marked with spots and blotches of brownish-grey and lilac-grey, the markings being most numerous in an irregular zone round the larger end.—W. R. O.-G.]

PLOCEUS NIGERRIMUS. [Eyelesô.]

Melanopteryx nigerrimus Sharpe, Ibis, 1908, p. 350; Bates, Ibis, 1909, p. 46.

Malimbus nigerrimus Grant, Trans. Zool. Soc. xix. p. 270; Ibis, 1908, p. 278.

This is a black species of *Ploceus*, and not a *Malimbus*. (1) Both the young birds and the females have plain Sparrow-like plumage; in *Malimbus* the young and females have the colours like those of adult males, though differently arranged. (2) *P. nigerrimus* is gregarious and graminivorous, like *P. cucullatus*; all species of *Malimbus* are shy, forest-haunting birds, building solitary nests, and feeding entirely on insects. (3) *P. nigerrimus* has a bright yellow iris, like *P. cucullatus*; in *Malimbus* the irides are invariably dark brown. That the totally black plumage of *P. nigerrimus* is a recent acquisition is indicated by the frequent occurrence of a few light feathers among the black ones on the abdomen or under tail-coverts.

Nests of this species and of *P. cucullatus* are often found in the same colony, and are so much alike that it is difficult to distinguish them, but the nests of the Black Weaver are rather more compactly woven, and have shorter entrance-tubes, finished off evenly with the bottom of the nest itself, while in nests of the Black-and-Yellow Weaver the tube extends downwards a little below the bottom of the nest. Four eggs (Nos. 176–9) were taken from two nests pulled down, with many others, from a colony in two palm-trees, which I am sure, from having watched it for several days, contained only birds of the black species. One pair measure 25 × 16 mm.; the other pair 23 × 16 and 22 × 15·5 mm. respectively.

[The eggs are of a rather pointed oval form, devoid of gloss, and of a uniform deep bluish green.—W. R. O.-G.]

Among the different types of eggs of *Ploceus cucullatus* (see 'Ibis,' 1909, p. 44) none resembles the eggs above described. Hence in a mixed colony of the two species there are about four very distinct types of eggs, a circumstance that must aid each hen-bird in finding her own, to the benefit of the race.

PLOCEUS MAXWELLI.

Melanopteryx maxwelli Alexander, Ibis, 1903, p. 355.

See note under *Melanopteryx nigerrimus* Bates, Ibis, 1909, p. 47.

Many additional specimens have now been obtained at Bitye, like those to which attention was called in my note in 'The Ibis' (*l. c. supra*), and I have no longer any doubt about their identity with Alexander's *M. maxwelli*.

There is a remarkable variation in the colour of the immature birds that I cannot account for. Some have the plumage of the under parts entirely grey, while others have these parts strongly tinged with yellowish-olive, and in some the yellowish colour appears also on the feathers of the nape and the lores. Alexander noted this difference in his specimens, and attributed it to sex, describing the bird with the yellowish-olive in its plumage as the immature male, and the entirely grey one as the immature female. My specimens do not bear this out, as the amount of the yellowish tinge in different specimens varies in all degrees, and two having a large amount of this colour were females. On finding that the difference was not due to sex, I supposed that it might be due to age, and that the young birds lost the yellowish-olive colour and became quite grey before moulting into the black plumage of adults. Though my first specimens supported this view, since only grey ones were found with new black feathers appearing, another specimen subsequently obtained and having much of the yellow tinge was also moulting into adult plumage. It can therefore only be said that immature birds of this species vary greatly in colour. A comparison with the well-known immature plumage of *P. nigerrimus* suggests that young birds of *P. maxwelli* with yellowish-olive in their plumage shew a reversion to a type of plumage more like the young of the former species.

All my specimens were shot with bow and arrow, after they had gone to roost, in flocks, in the tall grass. If, as is probable, this bird nests in colonies, like *P. nigerrimus*, it must choose nesting-trees in retired and out-of-the-way places.

AMBLYOSPIZA SATURATA. [Kô-esông.]

Sharpe, Ibis, 1908, p. 353; Bates, Ibis, 1909, p. 48.

Many more examples have now been obtained of this species, which seems sufficiently distinct, though closely allied to both *A. capitalba*, from Upper Guinea, and *A. melanonota*, from the Lake district.

One immature male (No. 3784) has a plumage scarcely differing from that of the female, but the differences are nevertheless interesting, since they foreshadow the most marked characters of the adult male plumage, namely, the white forehead, chestnut head, and the white wing-spots. The immature male has a tinge of chestnut mixed with white on the forehead, and a little greyish-white on the outer webs of the primary-quills. A male not yet breeding (No. 1415) has a plumage like that of the adult, but the light margins on the feathers are wider and more numerous, and the throat and crop are blackish, not clear chestnut. This seems to be an intermediate plumage.

No 3879 is a bird which I do not understand. Both in its plumage and its rather smaller size it is exactly like a female (not *nearly* like one, as is No. 3784); yet it was a *breeding* male!

The Kô-esông is a most lovable bird, in spite of its somewhat ungainly appearance and big bill. I have already described its pretty song and its admirably woven nests. The latter are made of fine shreds torn from the leaves of the big grass *Panicum plicatum*, the folds of the ribbed or plicate leaves of which are seized by the bird one at a time, all at the same height, and torn upwards to the tip, leaving the grass-blade neatly and regularly shedded. About the end of July, a pair of Kô-ésông began to build in some tall grass near my house. About the 1st of September I heard the singing of the male again, after it had been silent for some time, and that afternoon went to look at the nest. On peering among the cane-like grass-stems I saw a pretty sight. On the roof of their house were perched three young birds, nearly fledged, and the chestnut head of the father could be seen not far off, as he assisted at the *debut* of his offspring. Forty-one days had then elapsed since the birds commenced building.

Additional eggs are exactly like those previously described.

SPERMOSPIZA GUTTATA. [Edumvin.] (Text-fig. 16, A, p. 590.)

Sharpe, Ibis, 1908, p. 347.

The small white spots which characterise the plumage of the lower breast and abdomen of the female are not found in young female birds, which have those parts of a uniform slate-grey washed with brownish. In several of my specimens, feathers having spots are mixed in varying numbers with the uniformly coloured ones, and it can be seen in some cases that the spotted ones are new and the others old.

A very young male (No. 4032) with the plumage only half-grown had the parts which are red in the adult dull dark brown. This young bird had the margin of the gape thickened and yellowish-white, with two enlargements or gape-wattles in it on each side. The inside of the mouth was pale yellow, and there were three large black spots on the palate, with another small one on each side near the gape, as figured (text-fig. 16, A, p. 590).

The statement made by me in an early letter to Dr. Sharpe, and published in 'The Ibis' (1902, p. 90), that I had seen the Edumvin building in high trees in the forest, was a mistake, due to my confounding this bird with a *Malimbus*. The Edumvin is a humble bird, and spends its life in bushes near the ground. Two nests were found last year in such situations, besides one or two others not recorded.

These nests were loose globular piles of ferns with a central portion of grass-tops, in shape like those of *Estrilda*, with an opening at the side; some soft white pappus was placed inside for lining, and in one case some feathers that were not the bird's own. Each nest contained three white eggs devoid of gloss; those of one clutch measure 19 or 19·5 × 14 mm., while those of the other all measure 19 5 × 13·5 mm.

PYRENESTES OSTRINUS. [Edumvin.]

Sharpe, Ibis, 1908, p. 347.

An adult female (No. 3606) is a somewhat smaller bird than any of the others, which include males and females, and has a much smaller bill, the length of the culmen being 12 mm., and the width of the bill at the base the same, while in the other adult female the length was 15 and the width 16 mm. These birds were all from the same locality.

The gape-wattles and the black spots on the palate of an immature specimen (No. 3135) were much like those of *Spermospiza guttata* (*cf.* text-fig. 16, A, p. 590).

This Edumvin is found in swampy places overgrown with the sedges which the people used formerly to cut and burn to obtain salt from the ashes, and it feeds on their hard seeds. A sitting female (No. 4347) was brought in with a nest, which was said to have been found in such a place. The nest was a large globular mass of dry broad strips of leaves of the *Calamus* palm, laid or woven together loosely, with an opening at one side, and lined with a few fine grass-tops.

The three eggs (Nos. 536, 537, & 538) found in the nest are white, without gloss, and measure respectively :—20 × 14, 19·5 × 14, and 19 × 14 mm.

QUELEA ERYTHROPS.

Reichenow, V. A. iii. p. 111.

No. 3433. ♂. Bitye, February 1909.

This single specimen, the only one I ever saw, was shot with bow and arrow by my boys, who said it was in a flock with other small Weaver-birds.

PYROMELANA FLAMMICEPS. [Kulesô.] (Plate XI. fig. 8, egg.)

I have mentioned ('Ibis,' 1909, p. 49) the characteristic of the nests of the Kulesô, that the entrance or vestibule appears unfinished. Of several nests found since, three had no continuous tube at all, but consisted only of the sack part, woven in connexion with a vertical wreath attached to the weed-twigs, which formed the foundation of the nest.

With one nest, containing two eggs, were brought *two* female birds, both said to have been caught in the nest at night. One had a marked brood-spot, the other had none, but was found on dissection to have recently laid eggs. As the eggs were alike in every particular, and both partly incubated, they must have belonged to the bird with the brood-spot. The other seems to have gone into the wrong nest for the night.

A nestling, beginning to get its feathers, had the inside of the mouth deep fleshy-red and the swollen margin of the gape white. Very young nestlings had the colour inside the mouth not nearly so bright.

Of five clutches of eggs saved since those previously reported, three consisted of two eggs each, two of three each. The measurements of these vary from 19 to 17·5 mm. in length and from 14·5 to 13 mm. in breadth.

[Some of the specimens recently collected are uniform deep greenish-blue, the few scattered rounded black spots or dots being entirely absent (*cf.* 'Ibis,' 1909, p. 50).—W. R. O.-G.]

Spermestes cucullata. [Aseleke.]

Sharpe, Ibis, 1908, p. 345; Bates, Ibis, 1909, p. 50.

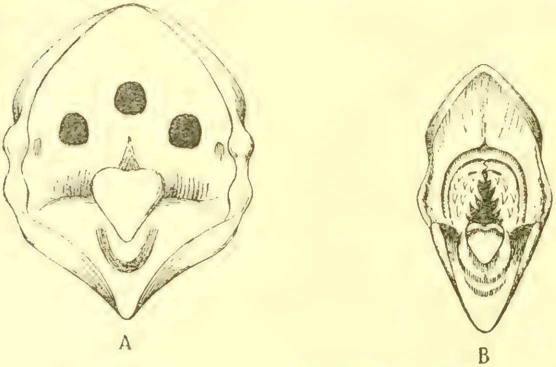
A pair of this Aseleke began to build, in the month of August, inside an old nest of *Ploceus cucullatus*, in a palm-tree standing within a few feet of my house, after I had exterminated or driven away the birds of the latter species from the tree. The little fellows flew backwards and forwards very rapidly between the old nest and a patch of big grass, bringing each time a bit of grass-top and entering the nest with it. But, unfortunately, they discovered me watching them, and abandoned that nesting-place.

Spermestes poensis. [Aseleke.] (Text-fig. 16, B, p. 590.)

Sharpe, Ibis, 1902, p. 96; 1908, p. 344; Bates, Ibis, 1909, p. 51.

Young birds of this species differ greatly in plumage from adults, being brownish-black above, smoky-brown beneath, and lighter brownish-buff in the middle of the breast and abdomen. Some specimens have some of the

Text-fig. 16.



A. Mouth of young *Spermospiza guttata* (from a sketch by the author), see p. 587. B. Mouth of nestling *Spermestes poensis*, see p. 590.

glossy black and spotted feathers of the adult plumage appearing among the brown ones, proving them to belong to this species and not to *S. cucullata*.

Three young nestlings that were brought to me with their nest, in November, had peculiar mouth-markings. These consisted of a white ridge on the palate, shaped like an inverted letter U, bordered on either side by a black line; some similar marks under the tongue; a black band across the base of the tongue; and a white swollen gape-margin. The accompanying figure (16 B) was drawn from one of these young nestlings, which was preserved in spirit. In order to shew the inside of the mouth, both above and below, the artist had to represent the mouth as opened to an extent impossible in reality; the mouths of these thick-billed Weaver-birds cannot be opened wide.

HYPARGOS SCHLEGELI. (Text-fig. 17, A, p. 594.)

Reichenow, V. A. iii. p. 159.

Pytelia schlegeli Sharpe, Ibis, 1908, p. 346.

Young birds of both sexes have the under parts uniform grey washed with olive, and gradually acquire the spotted adult plumage, different specimens shewing various proportions of uniform and spotted feathers, just as in the case of *Spermospiza guttata* mentioned above.

Adult females have spotted under parts just like the males, though the colouring of the heads is different in the two sexes.

An immature specimen (No. 4057) had the mouth-markings of the nestling still very distinct. These are shewn in text-figure 17 A, which was drawn from my sketch and description, made when the specimen was freshly killed.

NIGRITA BRUNNESCENS.

Reich. V. A. iii. p. 167.

Nigrita bicolor Sharpe, Ibis, 1908, p. 345.

Female specimens are of a lighter colour than males. Immature birds are still lighter than adult females; one specimen, No. 3738, ♂ imm., has a pale plumage in which some new feathers of the deep, rich colour of the adult are appearing. Young birds of this species have the inside of the mouth marked in a manner very similar to those of the various species of *Estrilda* (*cf.* text-fig. 17, p. 594).

Most of my specimens of this bird were snared on ripe bunches of palm-nuts, the oily husks of which are a favourite food of this and many other birds. The stomachs of specimens shot contained small caterpillars. An incubating female (No. 3119) was brought to me alive, with a nest and five eggs. The nest was much like that of an *Estrilda*, but larger, and was composed of a loose mass of dried leaves, lined with a more compact structure of grass-tops; it was placed in a forked twig of a small tree. The eggs are perfectly white, with little or no gloss, and measure 16 × 11·5 mm.

NIGRITA LUTEIFRONS.

Sharpe, Ibis, 1908, p. 346.

In this species the iris is greyish-white or greyish cream-coloured. A young specimen, No. 4131, has the plumage even more nearly uniformly grey than the adult female, since it lacks the black around the eye and the whitish colours on the forehead. This young bird had the margin of the gape black, with four white warts or wattles, one just at the angle of the gape and two above and one below this; there were spots on the palate and tongue like those of *Estrilda* (*cf.* text-fig. 17, B & C, p. 594).

In the paper by Sharpe in 'The Ibis' (*l. c. supra*) specimens of this species are mentioned from Efulen, but none from the Ja. Specimens have now been obtained at Bitye and at Assobam. These were not secured, as were most specimens of the other species of *Nigrita*, by means of snares placed on or under palm-trees, but were shot; their food was found, in every case recorded, to have consisted of scale-insects or *Cocci*.

NIGRITA FUSCONOTA.

Reichenow, V. A. iii. p. 168.

Nigrita pinaronota Sharpe, Ibis, 1908, p. 345.

In this species the iris is dark brown. Young birds have the plumage of the upper surface of the head merely of a darker brown than that of the back, without any lustre. They have mouth-markings like those of *Estrilda* (*cf.* text-fig. 17, B, C, p. 594).

A female (No. 3827; oviduct enlarged) was brought to me with a nest. The bird had been struck with the head of a spear as it emerged from the nest, which was placed in the axil of a palm-frond, too high for the boy to reach it with his hand. The nest was composed of the fine fibres of dry plantain leaf-stalks, and, though much disarranged, seemed to have been shaped like those of *Estrilda* and of *Nigrita brunnescens* mentioned above. Thus the statement of natives, given in a note under this species ('Ibis,' *l. c. supra*), that the remarkable felt nests sometimes found, resembling those of the Penduline Tit, are nests of this species or *N. brunnescens*, is proved to be a mistake.

The nest above described had contained three eggs, but two were broken; the third, which is pure white and without gloss, measures 14·5 × 10·5 mm.

ESTRILDA OCCIDENTALIS.

Sharpe, Ibis, 1908, p. 343; Bates, Ibis, 1909, p. 52.

A young bird of this species was noted with mouth-markings similar to those of the species of *Estrilda* (*cf.* text-fig. 17, p. 594).

A sitting female (No. 3936) was caught in the nest, which was of the usual water-bottle shape characteristic of the small Spermestinæ; the five eggs were also exactly like those of *Estrilda atricapilla* already described ('Ibis,' *l. c. supra*). These eggs vary only from 13 to 13·5 mm. in length, and all are 10 mm. in width.

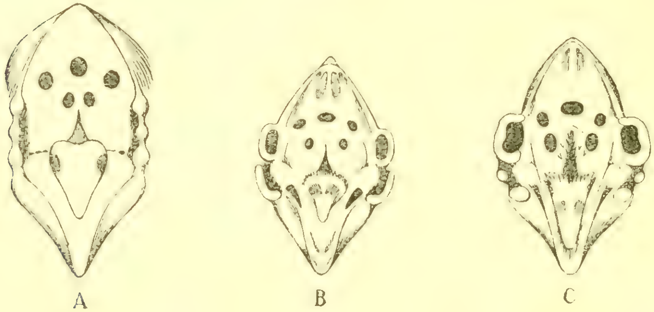
ESTRILDA NONNULA. (Text-fig. 17, B, p. 594.)

Sharpe, Ibis, 1908, p. 344.

This is the commonest species of *Estrilda* at the Ja, but was not found at Efulen.

Six nests with eggs or nestlings were brought to me: five in the month of September and one in November. All but one were accompanied by a sitting female bird, caught in the nest; one nest was brought with a male bird with large breeding-organs, which had been imprisoned by the drawing tight of a noose put loosely over the neck of the nest while the bird was away. Along with one of the nests two hen birds were brought, said to have been caught together in the nest: one shewed the usual evidences of sitting, the other did not. These nests were like those of *Estrilda atricapilla* already described ('Ibis,' 1909, p. 52).

Text-fig. 17.



A. Mouth of young *Hypargos schlegeli* (from a sketch by the author), see p. 591. B. Mouth of nestling *Estrilda nonnula*, see p. 593. C. Mouth of young *Estrilda melpoda* (from a sketch by the author), see p. 595.

None came to me with such an additional nest joined to it as that there described; but in one case I was told that there had been such an additional nest which was not brought. In this case the eggs were in the main nest, and the addition was empty: the boy called it the place where "the cock bird sleeps." Another of these nests of *Estrilda nonnula* shown to me had a sort of rudimentary or unfinished addition at its base.

One of the nests above referred to contained, besides the mother bird, five young and naked nestlings. The mouth of one of these, that was preserved in spirit, is here figured. Note in the figure (17 B) also the "egg-tooth" on the tip of the bill.

The number of eggs brought in a nest varied from three to six. Nineteen eggs that were measured vary in length from 13 to 15 mm. and in width from 10 to 11 mm., the average size being nearer the smaller than the larger limit.

ESTRILDA ATRICAPILLA.

Sharpe, Ibis, 1908, p. 343; Bates, Ibis, 1909, p. 52.

The mouth-markings of several young birds of this species, that were noted, resembled those of the other species of *Estrilda* (*cf.* text-fig. 17).

ESTRILDA MELPODA. (Text-fig. 17, C, p. 594.)

Sharpe, Ibis, 1908, p. 344; Bates, Ibis, 1909, p. 52.

A young bird, with plumage not yet grown (No. 4452), had very distinct mouth-markings. These are shown in the figure, which was drawn from my sketch and notes made before skinning the bird.

SERINUS PUNCTIGULA. [Odibetaa.]

Sharpe, Ibis, 1908, p. 341.

Serinus icterus Sharpe, Ibis, 1908, p. 342.

My birds are undoubtedly the same as those collected by Zenker, not very far away, which Reichenow described as *Serinus punctigula*. But they do not all shew the characters by which he distinguished the species, viz., the white chin and the blackish dots on the throat. Three out of sixteen specimens have pure yellow chins and throats; these are all adult males. The remainder include birds of both sexes, some immature and some apparently adult. It may be that the dots are lost and the chin becomes yellow with age, and perhaps in males only. All my specimens have the backs of a much brighter green colour than most specimens of *S. icterus* from S. Africa; they have also less white on the tips of the rectrices.

This Yellow-fronted Canary has a pretty little song.

A young bird (No. 4482) has downy tips still adhering to some of the feathers. It was one of two in a nest in a bunch of plantains, and both flew out when I put up my hand to take them. This young bird had the inside of the mouth dark, contrasting with the yellow inside of the bill and yellow margin of the gape, which together formed a conspicuous yellow circle when the mouth was opened wide. It is a curious fact that this nestling's stomach contained sand: as the young one had probably never been out of the nest before, the old bird must have procured it.

The nest above referred to, and another nest brought with a sitting bird of this species and fragments of a broken egg, were little cups somewhat rudely built of fine fibres of dry bark of weeds or plantain leaf-stalks.

EMBERIZA CABANISI. (Plate XI. fig. 11, egg.)

Sharpe, Ibis, 1908, p. 342; Bates, Ibis, 1909, p. 54.

The food of this Bunting consists of small grasshoppers.

A young bird with the plumage half-grown (No. 4314) shews some interesting differences in coloration from the adult. The adult has a white throat, white wing-bars, white superciliary stripes, and white ends to the outer tail-feathers. The last character—that of the white in the tail—is common to all species of *Emberiza*, while the other white markings belong to this species alone, or to it and one or two others. These peculiar white markings of the species are replaced by brown in the young bird, while the outer tail-feathers are white as in the adult.

A pair of these birds had a nest and reared their young in a bunch of plantains in full view of my house, though they were so shy that they were seldom seen. Two other nests were found and brought to me with the birds. These nests were shallow and loosely built of dried leaves and small stems, with a few finer fibres inside. One that came *in situ* on the branch was set in thick foliage. In one of the nests was the nestling above described; in the other were two eggs (Nos. 452, 453) measuring 22 × 15·5 and 21 × 15·5 mm.

[These eggs are of a rather wide regular oval shape, and very slightly glossy. They are dull white, with long irregular fine scrawled lines and blotches of pale umber-brown and pale grey, most of the grey shell-markings being very indistinct.—W. R. O.-G.]

Criniger calurus. (Plate XI. fig. 3, egg.)

Sharpe, Ibis, 1904, p. 632; 1907, p. 458; Bates, Ibis, 1905, p. 96.

This is one of the few strictly forest-birds of which the nest has been found. A sitting female (No. 3916) was brought alive, having been caught "on the nest" (birds of this species are never caught in snares). The nest was brought along with the branch of a forest-shrub on which it had been placed, among the long close-growing leaf-petioles. It was composed of small dry twigs, with a quantity of damp moss laid on them and a cup of fine blackish fibres inside. The interior of the nest was almost black, and there was an evident correspondence in colour between it and the dark eggs. The eggs (Nos. 343, 344) measure 23 × 16 and 22·5 × 16 mm.

[They are pyriform in shape and distinctly glossy. They ground-colour appears to be pinkish, but is almost entirely obscured by the dense chocolate-brown markings forming a nearly uniform surface.—W. R. O.-G.]

Bleda notata. [Olo-éjak.]

Sharpe, Ibis, 1904, p. 635; 1907, p. 461; Bates, Ibis, 1905, p. 97.

The colour of the iris varies in different specimens, corresponding only partially to difference of sex. All females seem to have the iris brown, but some males have it brown and some yellow, and those with brown irides include adult birds, with large breeding-organs, though perhaps they are rather young. In all specimens the bill is black above and light bluish-grey beneath, and the feet are light bluish-grey.

Bleda syndactyla. [Nti-éjak.]

Sharpe, Ibis, 1904, p. 633; 1907, p. 459.

Iris brown; bill black above, pale grey beneath; bare skin about the eye pale bluish-grey; feet pale grey.

A young bird (No. 3728), with the plumage nearly grown, had the under part of the bill, the skin about the eye, and the feet pale yellow. In the plumage the most notable peculiarity is that of ill-defined light tips to the larger wing-coverts, not distinct enough to form spots.

The Nti-éjak is another forest-bird of which I have obtained one nest only. A sitting female (No. 4456) was shot by Nkolo on its nest, which was "on some brush in the forest" and was a shallow, slight structure, composed of dark-coloured decaying leaves and sticks, with a few black rootlets and tendrils for lining. It was found in the wet season, on the 1st of November. The colour of the two eggs exactly matched that of the nest. One egg was broken, but the chick within was alive; the other measured 26·5 × 18 mm.: the young bird was extracted without completely spoiling the specimen (No. 600).

[The egg is somewhat glossy. The ground-colour is pale buff, almost obscured by dense blotches and markings of rich vandyke-brown and pale brown.—W. R. O.-G.]

PHYLLOSTROPHUS FALKENSTEINI. (Plate XI. fig. 15, egg.)
Reich. V. A. iii. p. 391.

Pycnonotus viridescentior Sharpe, Ibis, 1904, p. 638; 1907, p. 464.

Phyllostrophus viridescentior Bates, Ibis, 1909, p. 56.

My specimens appear to me to be of the same species as the bird from Landana.

It is only lately that I have heard and seen this bird uttering its notes, for it is an unobtrusive and generally quiet species. Its notes sounded like those of *P. simplex*, but not so loud, and had the same peculiar tone as those of *P. leucopleura*, *P. simplex*, *P. flavigula*, and *P. orientalis*, which all sound like excited human talk. The type species of *Phyllostrophus*, which Levaillant called "Le Jaboteur," must have similar notes. This fact seems to shew that the genus is a natural one.

Three more nests, on which the sitting birds were caught at evening, have been shown to me, and resembled the one already described. They were set in forks of *ôkông* or cassava plants, and did not contain more than two eggs.

Four eggs (Nos. 188 *a*, 189 *a*, 241, and 316) vary in length from 22 to 24 mm. and in width from 16 to 17 mm.

[They differ somewhat from the green-grounded eggs already described ('Ibis,' 1909, p. 56) in having the ground of a pale stone-colour, but the markings are much the same.—W. R. O.-G.]

PHYLLOSTROPHUS SIMPLEX. [Nkes.] (Plate XI. figs. 12–14, eggs.)

Bates, Ibis, 1909, p. 57.

Bleda simplex Sharpe, Ibis, 1904, p. 632; 1907, p. 459; Bates, Ibis, 1905, p. 96.

At least a score of nests of this Nkes have now been found, and identified by the birds caught or killed in them. They are always placed on low bushes near the ground, in *bikôtôk* or gardens, a favourite breeding-site being the triple or quadruple fork of a cassava plant, or the similar fork of the big weed *Triumfetta*. They are shallow cups, rather rudely built, and very similar to other nests of Pycnonotidæ; but they have one invariable mark of distinction, for among the materials of the base or outside part a few dry tendrils of some wild or cultivated vine of the Gourd or Vine families are always to be found. The number of eggs in a clutch is invariably two. Most of the nests were found in the months of March, August, and September.

Nestlings have the inside of the mouth flesh-red, and the swollen margin of the gape pale yellow.

Seventeen eggs have been measured: two from two nests measure 26 × 18 mm.; these were the largest, though two others, from different nests, were wider—25 × 18·5 mm.; the smallest one, afterwards broken, measured 22 × 16 mm.; the two smallest that were saved, both from one nest, measure 22 5 × 17 mm.

[A large number of eggs vary considerably in shape from a regular oval to a rather long oval. They are distinctly glossy. The ground-colour varies from white to pale stone-colour, and the Bunting-like markings consist of long twisted well-defined lines, scrolls, blotches, and spots of rich vandyke-brown and faint lilac-grey. In one egg with a white ground the markings are all concentrated in a wreath of twisted lines round the larger end.—W. R. O.-G.]

PHYLLOSTROPHUS FLAVIGULA. [Nkes.] (Plate XI. fig. 10, egg.)

Bates, Ibis, 1909, p. 57.

Bleda flavigula Sharpe, Ibis, 1907, p. 458.

I have now learnt to distinguish the notes of this Nkes from those of *P. simplex*.

A few nests of this species have been brought, with the sitting bird caught or killed. Some of these nests were taken from higher situations than those of *P. simplex*, in small trees on cleared ground around villages. No tendrils were used in their construction. Other nests agree very well with the one already described (*l. c.*). The clutch consists of two eggs.

Nestlings have the inside of the mouth orange, and the swollen margin of the gape yellowish-white.

I have had unusual bad luck with the eggs of this species, and only two (Nos. 318 and 319) are perfect: both measure 24 × 16·5 mm.

[They are much more heavily marked than the broken one already described ('Ibis,' 1909, p. 57). The ground-colour is pale buff, almost obscured by dense blotches and markings of rich vandyke-brown and paler brown.—W. R. O.-G.]

PHYLLOSTROPHUS ORIENTALIS.

Bates, Ibis, 1909, p. 58.

Nos. 3141 ♂, 3178 ♂, 3220 ♀, and 3300 ♀. Assobam, Dec. 1908.

These birds are not *P. scandens*, and I think, by comparing them with the original description by Hartlaub and the figure (Zool. Jahrb. 1887, pl. xi.), that they belong to the species described from Emin's collection on the Upper Welle River as *P. orientalis*. The bird has been both seen and heard by me, and is one of those whose cries cannot be mistaken. It was met with at several places near the River Ja, and at my camp at Assobam near the River Bumba, always among the *Raphia* palms or other vegetation on the banks of streams. The fact that it was first met with on the eastern margin, and then at the extreme western edge of the Congo river-basin, makes it probable that the bird's range follows all the streams of that system.

A female (No. 3220), with a very marked brood-spot, was shot on the nest, which was found by my boys in a tree over a small tributary of the Bumba. This nest was hung, rather than set, between the forks of a twig, attached by means of woolly-looking cobweb and black hair-like fibres, forming a net around the outside, which was of dry leaves and palm-leaf strips. The two eggs were received broken, and could not be measured; but they looked small for the size of the bird.

[They appear to have been of a slightly pointed oval shape, and somewhat glossy. The ground-colour is dull creamy-white or pale stone-colour, with suffused clouded markings of greyish, especially towards the larger end, and with overlying small spots and short twisted markings and lines of umber-brown, most of the markings being more or less fused and indistinct.—W. R. O.-G.]

Andropadus indicator. [Mali.]

Grant, Trans. Zool. Soc. xix. p. 384.

Bleda batesi Sharpe, Ibis, 1901, p. 634; 1907, p. 461.

Bleda indicator Sharpe, Ibis, 1907, p. 460.

Additional specimens clearly shew that, as Mr. Ogilvie-Grant has observed, the birds with the outer tail-feathers pure white, that were named *B. batesi*, represent the immature plumage of *B. indicator*. Two obviously immature birds were shot, in which the white rectrices have no dark tips. These two birds have another interesting peculiarity in that their rectrices are longer and more pointed than those of adults—a characteristic I have observed in the immature of many kinds of birds (see 'Ibis,' 1911, p. 502 & fig. 13).

Males of this species have the iris greyish or creamy-white, while females have the iris brown or brownish-grey. This fact was first noted by Mr. Jackson ('Ibis,' 1906, p. 539). A comparison of the recorded colour of the iris in my female specimens seems to shew the further interesting fact that in the younger birds it is browner, in the older greyer (or more nearly approaching the colour of the male.)

In the allied *Andropadus clamans* both sexes have the iris brown, but it seems to be of a lighter colour in the male.

ANDROPADUS LATIROSTRIS. [Otok.] (Plate XI. figs. 17–19, eggs.)

Grant, Trans. Zool. Soc. xix. p. 386.

Andropadus efulensis Sharpe, Ibis, 1907, p. 461; Bates, Ibis, 1909, p. 59.

Eurillas efulensis Sharpe, Ibis, 1904, p. 636: Bates, Ibis, 1905, p. 97.

In this species the inside of the mouth, in both young and adult birds, is yellow, passing far back into orange.

Several nests, all identified by obtaining the sitting bird, were found in the tangled undergrowth on the borders of the forest. They were loosely built, largely of dry leaves, and had a lining of the fine black hair-like fibres I have so often seen in forest-nests: I do not know their origin. One nest contained a single infertile egg, on which the hen bird seemed, from her condition, to have been sitting for a long time. This egg was remarkably small, measuring 19·5 × 14 mm. One of two larger eggs, of which the other was broken, measures 25 × 16·5 mm.; the other pair measure 20·5 × 21·5 mm. in length by 15 mm. in width. These eggs do not vary materially in their colour and markings from those already described.

ANDROPADUS VIRENS. [Otok.] (Plate XI. figs. 6, 7, & 9, eggs.)

Bates, Ibis, 1909, p. 58.

Eurillas virens Sharpe, Ibis, 1904, p. 635; 1907, p. 462.

Eurillas camerunensis Sharpe, Ibis, 1902, p. 94; 1904, p. 636; 1907, p. 462.

An adult male specimen exhibits a peculiarity in plumage which I take to be a remarkable individual variation, as I have never seen another like it. The feathers of the back are very finely cross-barred with a lighter shade of colour. Otherwise it is a perfectly typical example of *Andropadus virens*.

Nests of this Otok, which have been shown to me along with the sitting birds caught on them, were always composed largely of dry leaves, so that they fell to pieces readily when handled. They were found in the thickest places in *bikótók*, always near the ground. One had in it three nestlings, and the old bird (the male) had been shot with bow and arrow while feeding its young. These nestlings, as well as other young birds seen, had the tongue and inside of the mouth bright orange; but in this species much of this colour is to be seen also in the mouths of adults.

The number of eggs in six clutches, brought in the nest along with the sitting birds, was always two. They vary from 20 to 22 mm. in length, and from 14·5 to 15·5 mm. in width. The description already given of the first two eggs found ('Ibis,' 1909, p. 59) applies to all these eggs.

Ixonotus guttatus. [Ntyetyal.]

Sharpe, Ibis, 1904, p. 638; 1907, p. 463; Bates, Ibis, 1905, p. 97.

It has already been noted that the Ntyetyal feeds in small flocks. A specimen shot recently, with a marked brood-spot and other indications of sitting, was one of such a flock. The birds do not seem to wander far, but frequent one place, at least, where there are trees with the fruit on which they feed.

There is a marked difference in the colour of the iris in the two sexes; in the male it is brown, in the female greyish-white. Note that in this species it is the female, in *Andropadus indicator* the male, that has a white iris.

Two nests have been found, both in small trees: one contained a single nestling; the other two eggs, which were broken by the shot that killed the bird. The nests were exactly alike in every particular: they were rather rude, slight, shallow cups, composed of dry leaf-petioles, bits of leaves and bark, with a slight lining of the rootlets of an epiphytic orchid, such as hang on trees. Both had the rims smeared over with the dried fruits upon which these birds feed, which had doubtless passed through the sitting bird's body. The bits of egg-shell found in the later nest, and sticking to the bird's breast-feathers, were thickly speckled and spotted with dark brown, the light yellowish ground-colour shewing but little.

PYCNONOTUS GABONENSIS. [Nkwe'ele or Kwalawata.] (Plate XI. figs. 1, 2, 4, & 5, eggs.)

Sharpe, Ibis, 1901, p. 638; 1907, p. 463; Bates, Ibis, 1905, p. 98; 1909, p. 60.

This bird may be called *homely*, using the word both in its good and in its uncomplimentary sense. Though not a pretty bird, it is a most attractive one on account of its ways, and excepting the Common Weavers and the Sparrows, which thrust themselves on the notice of mankind, it is the most familiar bird of the country. A pair repeatedly raised a brood, or sometimes only one chick, near my house, building in the thick centre of the foliage of a palm-tree, from which I had exterminated the Weavers. I have yet another illustration of the theme already spoken on, that the Nkwe'ele is a versatile bird. Though neither it nor its kindred are formed for running or hopping on the ground, and I have never seen another Bulbul on the ground, yet on two or three days I observed a pair of Nkwe'ele hopping along in front of my house like Sparrows, but awkwardly and with evident effort. There is more than mere fancy in the statement that these birds try to do everything they see other birds doing. They certainly have more than ordinary avian intelligence.

Nests of *Pycnonotus gabonensis* are a little deeper than those of the species of *Phyllostrophus* described, and rather better constructed; they are usually made of tomentose leaf petioles or weed-stems with finer fibres inside. They are found on all sorts of wild and cultivated plants and bushes about villages. I have recorded and saved the eggs of those nests only with which the sitting bird was brought. The bird was usually caught on the nest by boys in the evening; with one nest the boy brought both birds alive (a breeding male and a female with brood-spot), and stated that when he captured the latter on the nest, after dark, her mate came to defend her and was taken by hand.

Young birds have the swollen margins of the gape white and the inside of the mouth deep red. Adult birds have much orange-colour on the inside of the mouth.

Twenty-two eggs have been measured. The largest were two from different nests, each 24 × 17 mm.; the shortest were Nos. 515 and 515 *a*, from one nest, 20 × 16·5 mm. and 20 × 16 mm., but some eggs that were not so short were narrower than these, the narrowest measuring 21·5 × 14·5 mm.

[The recent collections include at least three types of eggs, which are very distinct from the ordinary fine-spotted form already described ('Ibis,' 1909, p. 60).

Nos. 501, 502. One pair has the markings larger and of an unusually brilliant maroon, very densely crowded towards the larger end.

Nos. 229, 230. In a second type the ground is pale pinkish-white, sparingly marked with small separate spots, blotches, and short irregular lines of light red and chocolate, with underlying rounded spots of pale lilac-grey.

Nos. 515, 515 *a*. In yet a third type the eggs are shorter and the ground-colour is pink and with markings much as in the last (second) type, but the surface-markings are more numerous and nearly all light red.—W. R. O.-G.]

ZOSTEROPS STENOCRICOTA.

Reich. V. A. iii. p. 432.

Zosterops senegalensis Sharpe, Ibis, 1908, p. 337.

No. 246. ♀. Efulen, 19 Nov., 1903. Length of wing 50 mm.

No. 4011. ♀. Bitye, 12 Nov., 1909. Wing 52 mm.

No. 4025. ♂. Bitye, 17 Nov., 1909. Wing 54 mm.

A specimen skinned by a native, Bitye, Nov. 1909. Wing 53 mm.

These are certainly not *Z. senegalensis*, from which they differ in several particulars. They agree in all points, including measurements, with the description of Reichenow's *Z. stenocricota*; they agree also with several specimens in Seimund's collection from Fernando Po in every particular except size. The birds from Fernando Po are larger, the length of the wing ranging from 55 to 59 mm., and the bill is much longer than in my specimens.

From the fact that these little White-eyes appear only occasionally, and that all obtained, both at Efulen and at Bitye, were killed in November, I suspect that they may be more or less migratory.

ANTHREPTES AURANTIUS.

Reich. V. A. iii. p. 445.

No. 4084. ♂ ad. Esamesa, R. Ja, January 1909. Bill black, grey at base beneath; feet slate-coloured.

CINNYRIS SEIMUNDI.

Grant, Bull. B. O. C. xxiii. p. 19.

Nos. 3006, 3620, 3955, 4106, 4184. All ♀. Bitye.

Nos. 3610, 3644, 4518. ♂ adult. Bitye.

CINNYRIS BATESI. (Plate XI. fig. 22, egg.)

Grant, Bull. B. O. C. xxiii. p. 19.

No. 3201. ♀. Assobam.

Nos. 3632, 3641, 3651, 4075, 4158, 4212. All ♀. Bitye.

Nos. 3540, 3650, 3652, 3655, 3736. All ♂, mostly with testes. Bitye.

Nos. 4335, 4336. Young. Plumage half-grown.

In addition to the characters well given in the original description, it may be noted that the rectrices are black with broad olive-green margins.

A sitting bird (No. 4158) was brought in the nest in which it was caught about 7 o'clock in the evening. This nest, though a hanging pocket-like those of all Sunbirds, differed from most in having no long fibres used in its construction, and no loose ends hanging down, and was composed of moss with a lining of fine down. The nest was not very small, but the entrance was only the size of the finger (20 mm. in diameter). The nestlings (Nos. 4335 and 4336) were brought in another such nest. These had the inside of the mouth and tongue uniform orange, without markings.

In the nest first mentioned there were two eggs, but one was broken. The other (No. 476) measures 15 × 11 mm.

[It is of a rather short and somewhat pointed oval shape and devoid of gloss. The ground is pale pink mottled all over with darker greyish-pink; scattered all over the surface of the shell are a number of small spots and irregular marks of deep brown, with others smeared at the edges of paler yellowish-brown.—W. R. O.-G.]

CINNYRIS OBSCURUS. (Plate XI. figs. 20, 21, & 27, eggs.)

Cyanomitra obscura Sharpe, Ibis, 1908, p. 331; Bates, Ibis, 1909, p. 61.

Five more nests are now recorded, in which sitting birds of this species were caught or shot. These nests agree in every particular with the description already given; but one point may be added, by which nests of this and other Sunbirds may always be distinguished from those of *Smithornis* which they much resemble. In the latter long fibres or streamers hang down from the bottom of the nest; in Sunbirds' nests there are also long hanging streamers, but they come from about the mouth or entrance of the nest, like a beard, and not from the bottom.

The eggs in these nests always numbered two. All eggs measured have a width of 12 or 12·5 mm., but vary in length from 16 to 18 mm.

[They are of an ordinary oval shape, somewhat pointed towards the smaller end, and devoid of gloss. The eggs exhibit three very distinct types. In the first the ground is pale greenish-stone-colour mottled with yellowish-brown, and with somewhat rounded spots and blotches of dark brown with the edges blending into the ground-colour. In the second, the ground is greyish-white clouded with pale lilac-grey and with small spots and short dashes of dark brown thinly scattered over the outer shell. In the third type the ground is greenish-white, finely and densely clouded, especially towards the larger end, with yellowish-brown and dull grey blotches, the latter being mostly arranged in a zone round the larger end.—W. R. O.-G.]

CINNYRIS VERTICALIS. (Plate XI. fig. 16, egg.)

Cinnyris verticalis Sharpe, Ibis, 1908, p. 339.

Sunbirds of this and other species used often to visit my Papaw (*Carica papaya*) plants, that are always full of blossoms. One would perch and rapidly insert its bill into each of the flowers within reach, then move to a new part of the cluster. What they get in these flowers I believe to be nectar and not insects, for I often looked over a cluster of Papaw flowers and have found no insects in them. Butterflies used to visit the same flowers in the same way. All Sunbirds eat small spiders, but they do not find these in flowers; and I have seldom seen true insects in their stomachs.

A nest, in which a sitting female of this species was caught in the evening, was like that of *C. obscura*, but even larger and more bulky, though those are also large for the size of the bird. The nest of *C. verticalis* had streamers a foot long hanging from the lower lip of the entrance. The two eggs in this nest (Nos. 462, 463) measure 18·5 × 13·5 and 18 × 13·5 mm. respectively.

[They are of a regular oval shape, slightly pointed towards the smaller end, and devoid of gloss. The ground-colour is pale pink, sparingly marked with small dots, spots, and short dashes of deep chocolate-brown and underlying clouded markings of lilac-grey. In one specimen these markings are scattered over the greater part of the shell; in the second most of them form an ill-defined zone round the larger end.—W. R. O.-G.]

CINNYRIS CYANOLÆMUS.

Cyanomitra cyanolæma Sharpe, Ibis, 1908, p. 339.

No. 4259, ♀, with a marked brood-spot, was brought with a nest and two eggs. This remarkable nest may be described as an exaggerated form of the Sunbird's hanging nest, and might be likened to a *rope* three feet long with an enlargement two-thirds of the way down for the nest proper; but the materials are not twisted like a rope, and consist of small pieces of light twigs, weed-stems, and dry leaves, all held together by a tangle of the black hair-like vegetable fibres so often seen in nests. These fibres *grow* out of the bits of twigs, &c., and the bird had chosen such bits as had the fibres attached. The inside of the nest is lined with fine soft bark-fibres. The whole was hung on a thorny shrub. Both the eggs (Nos. 493, 494) measure 18 × 13 mm.

[They are of a rather long oval shape and devoid of gloss. The pale buff-coloured ground is almost obscured by dense mottlings of various shades of dark brown, which cover almost the entire shell.—W. R. O.-G.]

Cinnyris johannæ.

Reich. V. A. iii. p. 485.

Nos. 2918, 4214. Both ♂ ad. Bitye.

The liquid contents of the stomach of one of these birds was tasted and found to be sweet. I believe that the principal food of the adults of all species of *Cinnyris* is the nectar of flowers, not insects. Remains of spiders, however, were found in the same stomach.

Cinnyris chloropygius. (Plate XI. figs. 21–26, eggs.)

Bates, Ibis, 1909, p. 64.

Cinnyris preussi Sharpe, Ibis, 1908, p. 338.

I have seen this very common little Sunbird hovering before flowers in the manner of Humming-birds, but not for long at a time.

Females of this species (Nos. 4027, 4185, 4210) and two others not preserved, all shewing evidence of sitting or of recent laying, were brought with their nests. These were found in all seasons, the months being March, May, June, November, and December. The nests were made of the same materials as those of *C. obscurus*, with the addition of a decoration of white lichens on the outside and a lining of down like thistle-down.

The eggs are always two in number. They do not, as a rule, vary more than half a millimetre in either dimension from 15 × 11 mm., but one long, slender egg (No. 454, the fellow of which had been broken) measures 18 × 10 mm.

[Nos. 413, 414 have a somewhat different ground-colour to the rest, viz. pure creamy white, instead of bluish-white.—W. R. O.-G.]

CINNYRIS MINULLUS. (Plate XI. fig. 23, egg.)

Reich. V. A. iii. p. 487.

Nos. 3579, 3602, 3631, 3637, 3660, 3663, 3669, 3762. All ♂ ad. Bitye.

Nos. 3514, 3632, 3642, 4166, 4191. All ♀ ad. or immature. Bitye.

Males. Wing 46–50 mm.; culmen 15–16 mm.

Females. Wing 43–45 mm.; culmen 14–15 mm.

Several years ago I noted that some of the specimens, as I supposed, of *Cinnyris chloropygius* were very small; and in April 1909, at a time when the *Tya'a* (*Leea* sp.) was abundantly in flower and the little Bulu boys were catching many Sunbirds with snares fixed on the flowers, I skinned a large number of these very small Sunbirds, and satisfied myself that there was a second but smaller species resembling *C. chloropygius*. In a large number of the latter measured the length of wing in the males varied from 49 to 53 mm., and the culmen from 17·5 to 19 mm.; in the females, wing 47 to 49 mm., culmen 17 to 18 mm. There is thus a marked difference in size, and especially in length of bill. It was noticed, too, that in the small males the red feathers of the breast had dark blue metallic tips, while in the larger ones they had not. Subsequently, I discovered in the 'Vögel Afrikas' Reichenow's very brief description of *Cinnyris minullus* from a single specimen collected by Zenker, in which he gives only one distinguishing character, viz., white under wing-coverts, and I found that this held in my smaller species (in males of *C. chloropygius* they are grey). Thus there are three good characters for distinguishing the males of *C. minullus* (which my small birds seem to be): (1) the smaller size; (2) the blue tips to the red breast-feathers; (3) white under-wing coverts. Females I could distinguish from females of *C. chloropygius* by their smaller size only, and especially by their much shorter bills.

Nos. 4166 and 4194 were caught in their nests. These nests resembled those of *C. chloropygius* in construction, but were made of different materials, being composed of fine black rootlets and moss, stuck over with cobwebs, which hold many decorations of bits of whitish lichen, bark, dry leaves, and other scraps of dry vegetable matter. One nest contained one naked nestling, with the inside of the mouth orange, the tongue unmarked, and the swollen margin of gape whitish. The other nest, said to have been found hanging from two fern-fronds growing on the stem of a palm-tree (among the decorations on this nest were bits of dry male flowers of the palm), contained two eggs (Nos. 486, 487) measuring 15·5 × 10 and 14·5 × 10 mm.

[These eggs are of a rather long oval form and devoid of gloss. The ground is white with a greenish tinge spotted with dark ash-brown and blotched with dark lilac-grey, the markings being mostly arranged in an irregular ring round the larger end.—W. R. O.-G.]

ANABATHMIS REICHENBACHI.

Sharpe, Ibis, 1908, p. 310; Bates, Ibis, 1909, p. 63.

Nos. 3390, 3466, 3983. All ♂ ad. Bitye.

Nos. 3392, 3393, 3447, 3465, 3469, 3471, 3490. All ♀ ad. Bitye.

Nos. 3456, 3480. ♀ young. Bitye.

The adult females are smaller than the males, but exactly like them in every part of the plumage, even to the yellow pectoral tufts. The young birds represent two stages of immature plumage. No. 3480 is full-grown, with the bill as long as that of the adult; it is olive-green above, and the feathers of the crown have narrow metallic-blue edges; beneath it is yellow, but some new feathers appearing on the throat are metallic-blue, and some on the breast are greyish-white, like the plumage of the adult. No. 3456, a younger bird with a short bill, has the head, throat, and neck dark olive-brown, but some yellow feathers appearing on the throat and sides of the head belong to the plumage corresponding to No. 3180. Birds in this intermediate plumage have evidently been mistaken for adult females (*cf.* Shelley, Monogr. Nect. plate 96).

All the specimens mentioned above were caught in February and the beginning of March by means of snares fixed on flowering shrubs. At most times this species seems to be rare.

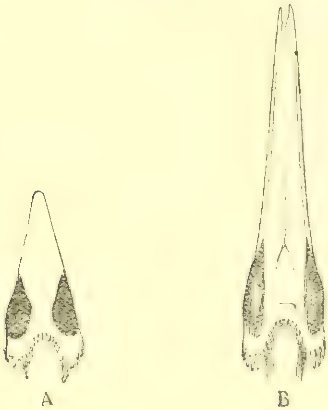
CISTICOLA ERYTHROPS. [Tinkwat.] (Plate XII. figs. 14, and 18–23, eggs.) (Text-fig. 18, p. 613.)

Sharpe, Ibis, 1908, p. 317; Bates, Ibis, 1907, p. 67.

Nos. 3116, 3890, and 4112 were immature birds, and No. 4527 was young with the plumage half-grown; these were all without the rusty brown colouring of the plumage about the head, and had the lores and sides of the head greyish-white. The inside of the mouth and tongue were orange-coloured, and the tongue had a pair of lanceolate black spots near the base at the edges. The tongue-spots do not entirely disappear when birds of this species become adult. In text-fig. 18, fig. A (p. 613) represents the tongue of a large nestling and B that of an adult bird. These figures and all those of birds' tongues were drawn from specimens preserved in spirit.

A large number of nests of the Tinkwat have been brought to me by boys, who find them in easily accessible bushes at the edges of the gardens, and so catch the sitting hen-birds in their nests after dark in the evening. I have already described these ingenious nests, but will here add that the felt-like lining of brown pappus varies in thickness, and is found to be thin and scanty when the eggs are fresh, and thick when they are nearly ready to hatch or when the nest contains nestlings. It is evident that the bird continues to line the nest after sitting has begun. The number of eggs is sometimes three, but more often two. About forty eggs have been measured. They vary in length from 16·5 to 18·5 mm., and in width only from 12·5 to 13·5 mm. Those of one clutch are nearly always of the same width, though they vary in length. As these eggs vary greatly in colouring, it may be worth while to say that they are all identified as those of *Cisticola erythrops*, the sitting bird having been carefully compared in every case with my specimens. I was the more particular to do this because, as I thought, there was more than one species of *Cisticola*; there were two at Efulen, but only one has been found at Bitye.

Text-fig. 18.



Tongues of *Cisticola erythrops*, see p. 612.
A, of nestling. B, of adult bird.

[In addition to the eggs which have already been described ('Ibis,' 1909, p. 68) we find examples with the ground pale greenish-white very finely mottled, and others with the ground creamy-white blotched and spotted with light red and lilac.—W. R. O.-G.]

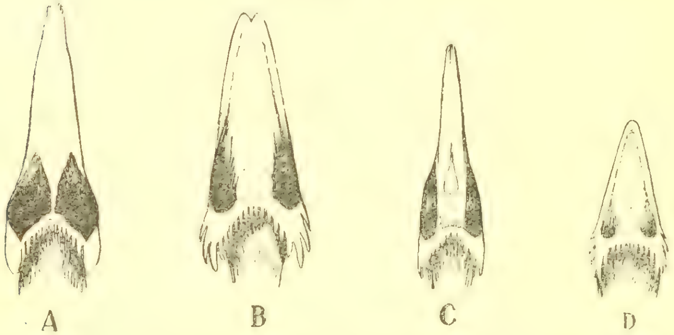
Calamocichla rufescens. [Oto'o-bisòng.] (Plate XII. fig. 16, egg.) (Text-fig. 19, A, p. 614.)

Neumann, Novit. Zool. xv. 1908, p. 244, ff.

Calamocichla poensis Sharpe, Ibis, 1908, p. 318; Bates, Ibis, 1909, p. 69.

Three nests of Oto'o-bisong have been found and brought to me, one identified by the two large nestlings (Nos. 3713, 3714) and the others by female birds all shewing signs of sitting. These nests were deep cups made entirely of strips of the leaf-sheaths of the cane-like grass *ésông* (plural *bisông*), amongst which the birds spend all their lives and from which they get their Bulu name. These birds do not spare material in building their nests, and one which was in a very acute-angled triple fork of ésông had a base more than eight inches deep, all the angle being filled up to a height where it was large enough for the cavity of the nest.

Text-fig. 19.



A. Tongue of young *Calamocichla rufescens*, see p. 613. B. Tongue of nestling *Burnesia bairdi*, see p. 615. C. Tongue of half-fledged young *Prinia mystacea*. D. Tongue of nestling *Sylviella denti*, see p. 621.

The nestlings had the swollen margin of the gape whitish, the inside of the mouth orange-yellow, and a pair of large black tongue-spots.

Of the other nests one contained a single egg (No. 301) measuring 19 × 14 mm.; the other contained two (Nos. 592, 593) measuring 20 × 15 and 19·5 × 14 mm.

[Three eggs are of a rather wide oval form and almost devoid of gloss. They are white or pale greenish-white rather sparingly marked all over the shell with small spots and blotches of yellowish-brown, dark grey, and light grey, the markings being more numerous towards the larger end.—W. R. O.-G.]

BURNESIA BAIRDI. (Plate XII. figs. 11 & 12, eggs.) (Text-fig. 19, B.)

Sharpe, Ibis, 1908, p. 326.

Prinia bairdi Bates, Ibis, 1909, p. 69.

Half a dozen nests of this species have been brought to me, each time with the sitting bird or with nestlings, since the two described already. They were placed in tangles of grass or bushes in the *bikótók*, and one amongst some of the big sedge called "*akwaé*" on the bank of the river. The description already given applies to all, except that the materials vary. This bird does not sew leaves together for the exterior. In one nest three nestlings were brought alive; when they opened their mouths the bright orange-colour and the black basal tongue-spots were very conspicuous. I fed these little birds with insects; each time, after swallowing, the little creature would turn around and void excrement on the side of the nest towards me, and upwards, but not over the edge of the nest; the parent bird would have removed it. The nest was clean when it was brought. The tongue of one of these nestlings is that figured.

Three is the usual number of eggs of a clutch in this species. A large number of eggs measure 16 × 12·5 mm.; none vary more than half a millimetre from this in width, but a few are longer, the limit in length being 18 mm.

[The eggs of this species have been already described, and additional clutches resemble those already examined. They are of two very distinct types, either with clouded markings or with finely freckled markings of some shade of chestnut; the ground-colour varies from pale bluish-green in the former type to bright blue-green in the latter.—W. R. O.-G.]

BURNESIA LEUCOPOGON. [Ose-minjombok.] (Plate XII. figs. 9 & 10, eggs). (Text-fig. 19, B.)

Sharpe, Ibis, 1908, p. 327.

A dozen nests of this species have been found and identified in the usual way, in all seasons except the very dry one. These have an even closer resemblance to each other than nests of the same species of bird usually have. The bird seems to know no other building-site than a pair of the hanging long-elliptical leaves of the tall endogen, *Amomum* sp., which is abundant in old clearings. These leaves are sewn together into a deep sack, which is filled with strips of large grass-blades and fine fibres as a lining. The sewing is done with tough cobwebs, which are passed through holes punctured in the edges of the leaves, forming true stitches; at one side the edges of the leaves are joined, at the other left a little apart and connected by the cobweb-threads passing around the side of the nest. Nests of *Burnesia leucopogon* differ from those of *Cisticola erythrops* in shape, being deep and narrow, the bird always using only two rather narrow leaves; they further differ from the nests of the *Cisticola* in having no downy lining.

A pair of nestlings found in one nest had the inside of the mouth orange and two large oval black spots at the base of the tongue.

In only one instance were the eggs more than two in number; in the clutch of three, one egg differed somewhat both in shape and the proportion of the brown and the grey colouring from the others, and only two empty sheaths were discovered in the bird's ovary. The eighteen eggs measured, some of which only could be saved, did not usually vary more than half a millimetre in either dimension from 17 × 12 mm.; but a large one is 18 × 13 mm., and two very long ones from the same nest measure 18·5 × 12 mm. and 19 × 12·5 mm. respectively.

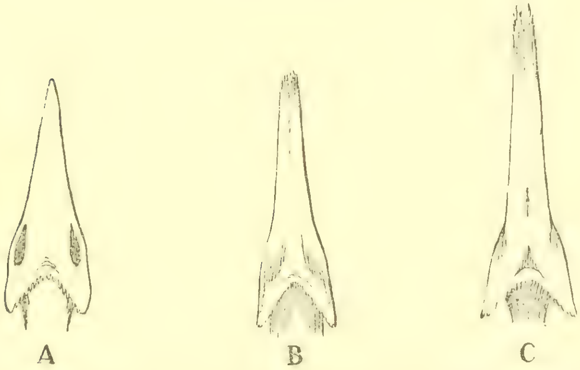
[Eggs of this species vary from a regular oval to a long oval shape and are devoid of gloss. The ground varies from pale greenish-blue to white, and is somewhat sparingly marked with rather large and distinct spots and blotches of reddish-chocolate or reddish-brown and various shades of lilac-grey.—W. R. O.-G.]

EUPRINODES RUFOGULARIS. (Text-fig. 20, A & B.)
Sharpe, Ibis, 1908, p. 320.
Euprinodes schistaceus Sharpe, Ibis, *l. c.*

Nos. 4136, 3009, 3272, 3313, 4064, 3996. All except the first were adult males with large testes. Bitye and Assobam. Plumage of *E. schistaceus*. The above numbers are arranged so as to begin with a specimen that is ringed with green above and with yellow below, and end with one that is clear slaty-grey above and white below; the intermediate numbers represent all gradations between the two; but the difference in the whole series is slight.

Nos. 3245 ♀, 4198 ♂, 3913 ♀, 4488 ♀, 3604 sex?, 3301 ♂, 4021 ♂, 3628 sex? All immature. Bitye and Assobam. Plumage of *E. olivaceus*. In the first the under side is pale brownish-yellow and the upper side olivaceous; and in the last three the under side is nearly white and the upper side nearly grey. All intermediate gradations are represented in the numbers between.

Text-fig. 20.



A. Tongue of young *Euprinodes rufogularis*, see p. 616. B. Tongue of nearly adult *Euprinodes rufogularis*, see p. 616. C. Tongue of young *Apalis binotata*, see p. 618.

No. 3343. ♀ adult. Assobam. (Similar ♀ specimens were previously collected at Bitye.) Plumage of typical *rufogularis*.

Immature birds similar to those mentioned above have been identified by Dr. Sharpe as *E. olivaceus*, and that species has been united by him with *E. rufogularis*. I have now to unite with it also *E. schistaceus*, which represents the male in adult plumage. This is done not only because in a large series specimens with the plumage of *E. schistaceus* are all adult males, and those with the plumage of *E. rufogularis* females (I had sent others before), and because birds in all the different plumages have been shot in company with one another; but because further confirmation is found in two specimens in the Museum (Nos. 2057 and 2141) previously collected by me at Bitye. These were immature males, and the plumage is similar to that of the last three (Nos. 3301, 4021, & 3628) in the series given above, but *a few new slate-coloured feathers are appearing on the throat,* indicating the change to the plumage of *E. schistaceus.*

It is to be noted that immature males change, becoming greyer above and whiter below, before the final change into adult plumage.

This species seems to me to have a different aspect, on account of its extreme slenderness, from either of the species of *Apalis* which I know; and its habits are different, for it is a bird of the forest, and feeds in companies or *bijak,* while *Apalis binotata* and *A. jacksoni* have been seen in small trees of open country, seeking their insects singly. The separation into a separate genus, *Euprinodes,* therefore, seems to be a natural one.

In text-fig. 20, p. 617, A represents the tongue of a young specimen that was not skinned, and B that of specimen No. 4198.

Apalis binotata. (Plate XII. fig. 15, egg.) (Text-fig. 20, C, p. 617.)

Sharpe, Ibis, 1908, p. 320; Bates, Ibis, 1909, p. 70.

A good many more specimens have been shot, for at Bitye it is not a very rare bird. The black on the crop of the males is more extended than in the females; in the latter there is only a black band running down the middle. The colour of the iris in all is brownish-yellow. Young birds (Nos. 3793–3889) have the heads above green like the back, and the feathers of the throat and chest slate-grey with white tips; the inside of the mouth and tongue orange, the latter with two small dark spots at the base near the edges.

A female (No. 4326), evidently sitting, was caught in the nest at about 8 o'clock in the evening. The nest was a hanging pocket composed almost entirely of the moss-like *Usnea* with a few cobwebs running through it to give it consistency, and a very few fine bits of grass-tops inside (just like that already described). Two eggs were in it, which measure 16 × 11 mm.

[The eggs of this rare species are of a long narrow oval form, blunted at the smaller end, and very slightly glossy. The ground is dull greenish-blue washed with rufous towards the larger end and marked with very small dots of light red with smeared edges.—W. R. O.-G.]

APALIS JACKSONI.

Reich. V. A. iii. p. 608.

Nos. 4079, 4081. ♂ ad.; 4082, 4086. ♀ ad. Irides of all dark greyish-brown. Esamesa, R. Ja, Jan. 1910.

All the examples were shot in the same place, and three of them in the same tree, a small Acacia-like tree near the village, where they were busily looking for insects in the foliage. The finding of this species forms another interesting link between the bird fauna of the district of the Ja and that of the Central African Lakes.

CAMAROPTERA GRISEOVIRIDIS. (Plate XII. fig. 13, egg.)

Sharpe, Ibis, 1908, p. 321; Bates, Ibis, 1909, p. 70.

My specimens vary greatly in the amount of white on the belly.

A pair of these little birds built a nest in the thickest part of the foliage of a guava bush near my house, so that I saw and heard them every day. Besides the loud sharp-toned notes already described, they had a lower call in a sort of whining tone of voice that was very pe[illegible]ar.

A young bird (No. 4103), with the plumage not yet grown, had the swollen margins of the gape yellowish-white, the inside of the mouth orange, and a pair of large black spots at the base of the tongue.

This bird unites the green leaves of a spray, using any kind of tree or bush, to form the outside frame for its nest, with one or more leaves for a roof, in the manner already described. Its building materials are so light, consisting largely of fine white down, that they scarcely bend down the leaves to which the nest is attached.

Seven clutches of eggs, brought in the nests with the sitting birds, consisted of two each, excepting one of three. They vary in length from 16 to 18 mm., and in width from 11 to 12 mm.

[Eleven eggs vary in shape from an ordinary oval to a rather long narrow oval form, and are somewhat glossy. The ground-colour is pale bright greenish-blue, either plain or sparingly marked all over the shell with small spots and dots of pale reddish-brown and lilac.

Two eggs are pure white.

Most of these eggs differ considerably from one taken by Mr. F. J. Jackson in British East Africa, and figured in the Transactions of the Zoological Society, xix. pl. xix. fig. 10 (1910), the ground of which is white with larger markings of yellowish-brown and pale grey.—W. R. O.-G.]

CAMAROPTERA CHLORONOTA.

Sharpe, Ibis, 1908, p. 322.

Nos. 3230. ♂ ad. Assobam. 3410, 3933, 4090. All ♂ ad. Bitye. These specimens have the throat greyish-white, and varying amounts of greenish colour on the chest and of white on the abdomen. Wing 53 to 58 mm.; tail 28 to 35 mm.

Nos. 3845, 4346. Both ♀ ad. Bitye. Throat greyish-white: chest tinged with greenish. Wing 50 and 53, tail 27 and 25 mm.

No. 4478. Sex? Bitye. Wing 52, tail 20 mm. (Probably ♀.)

No. 3323. ♂ immature. Assobam. Throat and chest pale brownish-yellow. Wing 55, tail 34 mm.

Nos. 3324. Assobam; 3668. Bitye. Both ♀ imm. Throat brownish-white. Wing 50 mm. in both; tail 27 and 20 mm.

Difference of age explains the variations of colour in the throat and chest; difference of sex may explain the shorter or longer wings and tails, except in two or three of the females, which have remarkably short tails, though certainly fully grown.

A sitting female (No. 4346) was caught in the nest, which was also brought, with two eggs. This nest differed from those of *C. griseoviridis* only in that it was composed *entirely* of soft white down (pappus); there were some tough brown cobwebs running through and giving firmness to the soft down. The nest was attached to six leaves, three underneath forming a support, and three above forming a roof.

The eggs (Nos. 534 & 535) measure 17·5 × 12·5 and 17 × 12·5 mm.

[They are similar to those of *C. griseoviridis* described above, but with the markings rather larger and more distinct, much as in the clutch including Nos. 526, 527.—W. R. O.-G.]

CAMAROPTERA SUPERCILIARIS.

Sharpe, Ibis, 1908, p. 323.

Camaroptera flavigularis Reich. V. A. iii. p. 621.

No. 3952. ♀ immature. Bitye.

No. 3304. Sex? Immature. Assobam.

No. 3315. ♂ immature. Assobam.

Many adult specimens.

These immature specimens have the throat and chest yellow with varying amounts of white intermixed, and it may be seen that the white feathers are in moult, many being still partly in the sheaths. The bird with yellow throat and chest described by Reichenow as *C. flavigularis* must be the young of *C. superciliaris*.

A marked character of this species does not seem to have been noticed, perhaps because it is supposed to be due to injury of the specimens. There is a bare patch at each side of the throat, the skin of which is deep blue.

SYLVIELLA DENTI. (Plate XII. fig. 17, egg.) (Text-fig. 19, D. p. 614.)

Sylviella denti Grant, Bull. B. O. C. xix. p. 25; Trans. Zool. Soc. xix. p. 364.

Sylviella batesi Sharpe, Ibis, 1908, p. 319; Bates, Ibis, 1909, p. 72.

Two nests, like that already described, were brought to me, each with the old bird (Nos. 4036 & 4150) and a single nestling. Both nestlings had the inside of the mouth orange, and the tongue had a pair of black spots at the base (text-fig. 19, D, p. 614).

I myself found another nest, and saw the little Crombec enter and sit in its tiny hammock, seeing it plainly enough to be pretty sure that it belonged to this species. This nest was hung on a prickly bramble-like stem that extended horizontally over a little cleared space in the *ékötök*; it was not concealed, but inconspicuous from its small size and resemblance to a bit of trash hanging on the stem.

PHYLLOSCOPUS TROCHILUS.

Reich. V. A. iii. p. 644.

No. 4413. ♀. Bitye, October 19, 1910. Plumage worn; inside of mouth and tongue bright yellow and orange, without markings.

This is the first time I have obtained the Willow-Wren. The Wood-Wren, *P. sibilatrix*, already reported, has been obtained again, and so has the Garden-Warbler, *Sylvia simplex*.

GEOCICHLA BATESI.

Sharpe, Ibis, 1908, p. 123.

No. 3067. ♀. Bitye, August 1908.

The occurrence of this specimen, which was caught in a snare, extends the range of the species further east.

BATHMEDONIA RUFA.

Sharpe, Ibis, 1908, p. 122.

Though rather rare, this is a bird of *bikötök* and not of the forest.

In its lively motions and manner of cocking its tail forward over its back, it reminded me of *Cisticola* and *Prinia*; and I think, for this and for other reasons, that the natural place of the species is close to those genera.

Both males and females have the iris brown, the feet blue, the bill black, and the naked or sparsely feathered skin of the throat blue.

Nos. 3745 & 3746, ♂ & ♀, with large breeding-organs, were brought late in the evening, with a nest, by a man who said he had caught them both after it got dark. He had seen the nest in a small tree in the *ékótók*, and put his hand over it. The nest was large enough to accommodate both birds, and shallow; but it may have been flattened and disarranged by the man's hand. No eggs were brought, but dissection shewed that the female bird had recently laid two.

ALETHE CASTANEA. (Plate XII. fig. 8, egg.)

Sharpe, Ibis, 1902, p. 94; 1908, p. 127.

A bird of this species, which proved to be an incubating female, was brought alive with a nest and one egg. The nest was flat or saucer-shaped, without any finished rim, and was made of fine rootlets with a little moss, bits of bark, and earth intermixed; the top layer was formed of ink-black rootlets, and the dark colour of the egg was in keeping with the colour of the nest and its surroundings, for the nest was said to have been found on the ground under the end of a decaying log in the forest.

The egg measured about 26 × 17 or 18 mm. It was somewhat broken, and could not be accurately measured.

[It is of a long oval form and almost devoid of gloss. The ground-colour is pale pinkish-white, nearly hidden by spots and blotches of rich maroon, light red, and dull lilac which cover the greater part of the shell.—W.R.O.-G.]

ALETHE COMPSONOTA.

Reich. V. A. iii. p. 746.

Geocichla compsonota Cassin, Pr. Philad. Acad. 1859, p. 42.

Alethe alexandri Sharpe, Ibis, 1902, p. 94; 1908, p. 126.

It was interesting to establish, from the type-specimen in the Museum of the Academy of Sciences of Philadelphia, the identity of the long-doubtful *Geocichla compsonota* of Cassin. Not only does the specimen itself shew this, but the description of *Geocichla compsonota* exactly fits *Alethe* *alexandrii,* with the one exception of the length of the wing: in the type-specimen that is 93 mm., which agrees with *Alethe alexandrii*; but in Cassin's description it is given as "$4\frac{3}{4}$ inches" (=120 mm.). This is evidently a mistake for $3\frac{3}{4}$ inches.

TURDINUS FULVESCENS. [Akalat.] (Plate XII. figs. 1–4, eggs.)

Reich. V. A. iii. p. 736.

Turdirostris fulvescens Cass. Pr. Philad. Acad. 1859, p. 54.

Turdinus cerviniventris Sharpe, Ibis, 1908, p. 119; Grant, Trans. Zool. Soc. xix. p. 379.

An examination of the type in the Museum of the Academy of Sciences of Philadelphia has shewn that Cassin's *Turdirostris fulvescens* is the species with no pure white on the under parts.

Nos. 3614, 3875, 1321, and another bird not saved, were females, evidently sitting, and brought in with the nests on which they were caught or shot with bow and arrow. No. 3978 was a male with very large testes, that had been shot with bow and arrow on the nest, early in the morning; the eggs that came with this bird and nest are Nos. 396, 397.

These nests were loosely made shallow cups of large leaves, more or less wet and decaying, with a few fine stems, fibres, or tendrils inside. They were found on low bushes on the borders of the forest, at all times of the year except in the driest season. The eggs in every nest were two in number; they vary in length from 20 to 23·5 mm., and in width from 15 to 16·5 mm.

[Eggs of this species vary very much in shape, markings, and colour; some are of a long oval form and others of a short blunt oval shape; they are slightly glossy. The ground-colour varies from pinkish-white or creamy-white to pure white; some have a few rather large spots and blotches of bright maroon and purplish-grey rather sparingly scattered all over the shell; in others the entire shell is densely mottled and spotted with rather fine markings of the same colour: in others, again, the markings are browner and less bright. One specimen has large blotches of dull purplish-grey underlying the small mottlings, and in two very blunt eggs there is a distinct zone or cap of deep chestnut-maroon surrounding the apex at the larger end.—W. R. O.-G.]

TURDINUS BATESI. [Akalat.] (Plate XII. fig. 5, egg.)
Sharpe, Ibis, 1902, p. 94; 1908, p. 117.

This is a *Turdinus*, not an *Alethe* as Reichenow has it. This is evident, not only from its appearance and habits, which are like those of the other species of *Turdinus*, but from the structural characters given in the 'Vögel Afrikas,' for the 5th, 6th, and 7th primary-quills are the longest and the 4th is considerably shorter.

A young bird (No. 3069) with the plumage not grown has no spots on the plumage like the young of *Alethe*; some of the wing-coverts are of a scarcely discernible lighter shade at the tips; the chest is dark brown, and the feathers of the breast and abdomen have dark brown edges, forming slight cross-bars.

Two sitting females (Nos. 4001 and 4128) were brought with their nests and eggs. The nests were merely loose piles of dead leaves with a few stems and rootlets, said to have been found on the ground in the forest; each contained two eggs. Those of one clutch (Nos. 406, 407) were extremely long (20 × 16 and 21·5 × 15·5 mm.), and when the small embryo had been removed from each there came out of the smaller end of the egg another opaque mass which may have been a second abortive embryo. The other eggs (Nos. 455, 456) both measure 23·5 × 17 mm.

[These eggs are of a long oval shape, very slightly glossed, and have the ground-colour white or pale pinkish-white, with small spots and irregular blotches and markings of dull maroon and dark purplish-grey scattered all over the shell. In two specimens they are more numerous towards the larger end and form an irregular cap or zone.—W. R. O.-G.]

COSSYPHA CYANOCAMPTA. [Angôkôn.] (Plate XII. figs. 6 & 7, eggs.)

Sharpe, Ibis, 1905, p. 474; 1908, p. 125.

I can speak more certainly now than I could in my former note ('Ibis,' 1905, p. 474) about the strange and sweet notes of the Angôkôn; for after looking for it many times when I heard it in the thickets of the *bikótók*, I at last saw it. This bird is a very perfect imitator of other birds; often one seems to hear a Cuckoo, for instance, but presently the voice changes, and you know that it is an Angôkôn. Late one evening when it was growing dark, and all sounds save those of night creatures had long ceased, I heard several short snatches of song by an Angôkón, from a thicket near by; is this bird acquiring the habit of its relative, the bird that "sings darkling"? It is interesting to note, too, that its eggs look like those of the Nightingle.

Four nests of this species, identified by the sitting birds caught in them, have been found by boys in the dark thickets which are the haunt of the bird. They were loosely built of decaying leaves and stems, with a few fibres inside. The number of eggs in each was two, but in every case one was broken; the eggs varied from 22 to 23·5 mm. in length, and from 15 to 16·5 mm. in width.

[They are of a long oval form and distinctly glossy, the ground-colour varies from rather bright greenish-blue to pale bluish-green, and is more or less obscured by dull indistinct mottlings and cloudings of rufous or lilac-grey, which are concentrated towards the larger end.—W. R. O.-G.]

COSSYPHA VERTICALIS. [Angôkôn.]

Reich. V. A. iii. p. 761.

Cossypha melanonota Sharpe, Ibis, 1908, p. 124.

My specimens have certainly, on the whole, darker backs than specimens of *C. verticalis* from the Gold Coast: but, as Dr. Sharpe pointed out, both these and the Gold-Coast birds vary in that respect, and are not clearly separable.

This Angôkôn is rarer than the other, and I do not know whether it sings or not.

A sitting female (No. 3891) was brought in with a nest, which the boy found on the top of a decaying stump. The nest was a rather loose mass of rootlets, small stems, and husks of maize, all mixed with fine earth, damp and black. The one egg received (No. 321) (the other had been broken) measures 24 × 16 mm.

[It is of a long oval shape, glossy, and uniform dull olive-green in colour.—W. R. O.-G.]

APPENDIX.

Two subjects on which observations have been made can be better treated separately here than in scattered remarks under the different species of birds. One refers to some small points in the pterylography of certain groups of Passerine birds; the other to the kind of insect-food on which the birds live.

I. The observations on pterylography were mostly made on skins turned inside out, in the process of preparation, but were verified in many cases by examination of the outer side and of nestling birds.

(1) *Space in the "saddle" in certain* Ploceidæ.

In the genera *Ploceus* and *Malimbus* there seems to be always present a small bare or sparsely-feathered space within the enlarged portion or "saddle" of the spinal-feather tract. This space is usually small; the largest one observed was in the specimen of *Ploceus batesi* (No. 4268). In the two examples of *C. amaurocephalus* a few small and scattered semiplumes were found upon it.

Besides the species already mentioned and that figured (text-fig. 21, B, p. 629), the following have been examined—usually more than one specimen of each—and found to have this space: *Ploceus nigricollis*, *P. ocularius*, *P. cucullatus*, *Malimbus malimbicus*, *M. nitens*, *M. rubricollis*, and *M. cassini*. Many specimens belonging to other genera of the Ploceidæ were examined and found to have no such space in the saddle of the spinal tract; it is a character confined, so far as my observations go, to the two genera named.

(2) *Gap in the Spinal Tract in certain* Sylviidæ.

In certain genera forming a very natural group, largely African, of which *Cisticola* may be taken as typical, there is a marked gap in the spinal tract immediately behind the saddle, and the lower end of the saddle itself is often emarginate or cordate in outline. This gap is sometimes entirely without feathers of any kind, but usually bears a few small semiplumes in a more or less regular row, but no contour-feathers. It extends from the saddle halfway to the oil-gland. The specimen of *Calamocichla rufescens* figured had a few semiplumes on this part. Specimens of *Camaroptera griseoviridis* had not even the semiplumes, but had a perfectly bare gap from the saddle for 5 mm. in the direction of the tail. The same was true in the one specimen examined of *Bathmedonia rufa* and in one of *Macrosphenus concolor*. In a half-fledged specimen of *Prinia mystacea* there was a perfectly bare gap extending for 10 mm.—a long way in so small a bird; but in adults of the same species the corresponding portion bore a few small semiplumes.

Besides the species already mentioned, the following were examined—generally more than one specimen of each—and found to have this gap:—*Cisticola erythrops, Burnesia bairdi, B. leucopogon, Apalis binotata, Macrosphenus flavicans, Camaroptera superciliaris, Sylviella virens, S. denti,* and *Eremomela badiceps.*

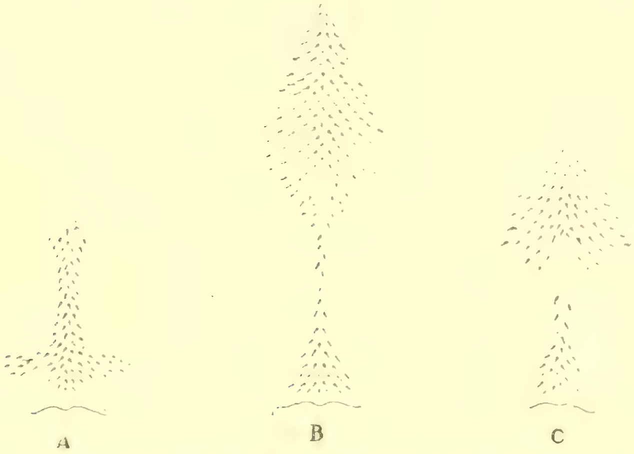
Some other species of small birds somewhat similar to the above, and generally placed near to them, were found to be *without* such a gap in the spinal feather-tract. Among these may be mentioned *Phylloscopus trochilus, Stiphrornis xanthogaster,* and *Hylia prasina*; in these the spinal tract, though narrow behind the saddle, was continuous, bearing contour-feathers all the way.

The gap here described is doubtless a degeneration of the portion of the spinal tract most clearly overlapped by the long and abundant plumage of the saddle. But in birds of other groups examined in which the feathers of the saddle are equally long and abundant, the part of the spinal tract behind it is unbroken, bearing contour-feathers which take their places in the midst of those springing from the saddle.

(3) *Branching End of the Spinal Tract in the* Pycnonotidæ.

In most Passerine birds the spinal feather-tract is only gradually and slightly widened at its hinder end, just in front of the oil-gland. In all Pycnonotidæ which I have examined, the hinder end of the spinal tract extends laterally into a pair of short branches, one on each side, together forming a short transverse band. The feathers composing these branches are all very short, most of them being merely semiplumes; but some that stand nearest to the main tract are long enough, in some birds, to reach the light, thus being contour-feathers.

Text-fig. 21.



A. Portion of the spinal feather-tract of *Pycnonotus gabonensis.* B. Spinal feather-tract of *Ploceus nigerrimus.* C. Spinal feather-tract of *Calamocichla rufescens.* (See Appendix, pp. 627, 628.)

These lateral branches were very marked in all specimens belonging to the genus *Phyllostrophus*—more so even, in some of them, than in the specimen of *Pycnonotus gabonensis* figured (text-fig. 21, p. 629). In all species of *Andropadus* and particularly in *A. virens,* the lateral branches were found to be weak, consisting of a few small semiplumes only. The following is a list of the species in which the end of the spinal tract was found to be branched; generally more than one specimen of a species was examined:—*Criniger chloronotus, C. calurus, Bleda syndactyla, B. tricolor, Phyllostrophus simplex, P. flavigula, P. falkensteini, P. leucopleurus, Andropadus indicator, A. clamans, A. gracilirostris, A. gracilis, A. virens, A. latirostris, Pycnonotus gabonensis, Ixonotus guttatus.*

No adult bird of the Family Pycnonotidæ was found to be entirely without these transverse branches at the end of the spinal tract; and no bird of any other family was found to have them. It should be added that they were not usually apparent in nestlings.

II. Do the Birds of Southern Cameroon eat Butterflies?

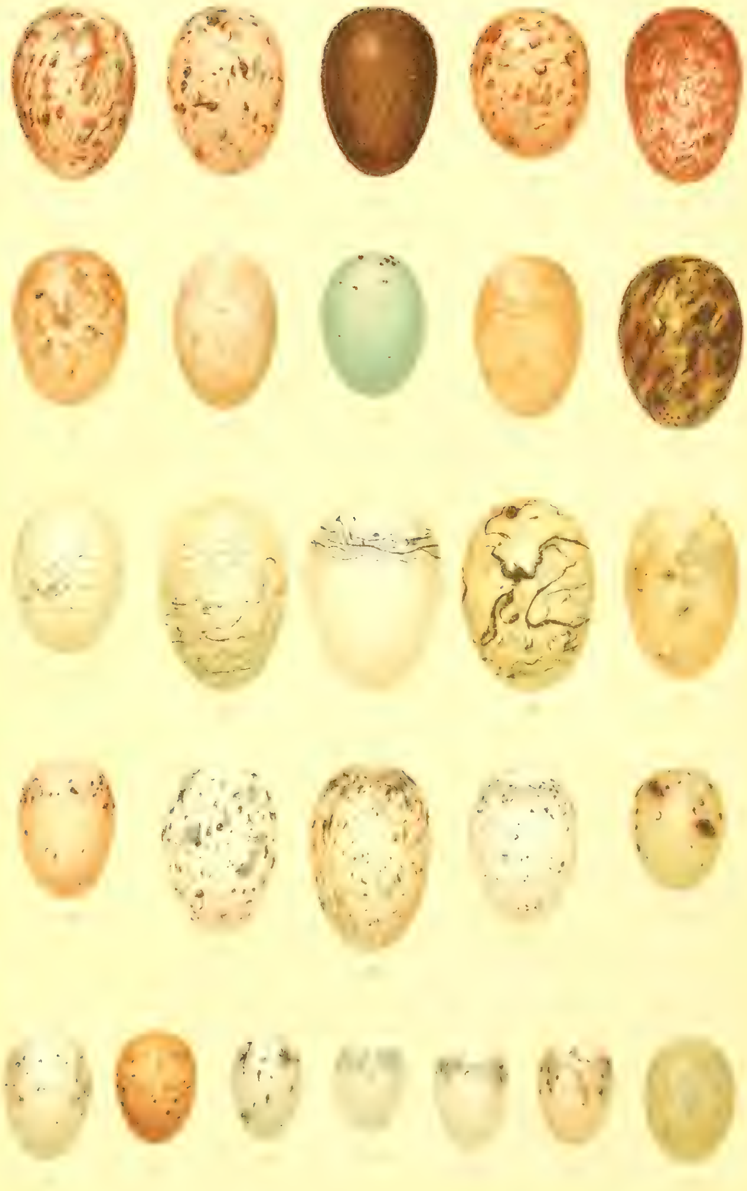
The question in regard to birds feeding on butterflies is of interest to ornithologists as well as to entomologists. I believe that the birds of the West African forest do not feed to any great extent on butterflies. This belief is not based merely on the fact that I have not seen them do so, for such merely negative evidence is of little value. It is based on the fact that the stomachs of a large number of birds examined were without any remains of butterflies that were identified as such. During half a dozen years in which I kept records of a considerable proportion of all birds skinned, not only as to whether fruits, or seeds, or insects were found in the stomachs, but also the kinds of insects found when these could be easily made out, I never recorded a single instance of finding a butterfly or part of one; and during several months, when my attention was particularly directed to that matter, I recorded in the cases of 178 insect-eating birds, the stomachs of which were examined, that nothing looking like remains of butterflies

EXPLANATION OF PLATE XI.

Figures of the Eggs of West African Birds.

[The numbers in brackets are those of the eggs, as marked on the egg-shell.]

Fig. 1. *Pycnonotus gabonensis*, p. 604. (No. 511.)
Fig. 2. ,, ,, ,, (No. 229.)
Fig. 3. *Criniger calurus*, p. 597. (No. 344.)
Fig. 4. *Pycnonotus gabonensis*, p. 604. (No. 515.)
Fig. 5. ,, ,, ,, (No. 502.)
Fig. 6. *Andropadus virens*, p. 602. (No. 269.)
Fig. 7. ,, ,, ,, (No. 448.)
Fig. 8. *Pyromelana flammiceps*, p. 589. (No. 189.)
Fig. 9. *Andropadus virens*, p. 602. (No. 520.)
Fig. 10. *Phyllostrophus flavigula*, p. 600. (No. 349.)
Fig. 11. *Emberiza cabanisi*, p. 596. (No. 453.)
Fig. 12. *Phyllostrophus simplex*, p. 599. (No. 340.)
Fig. 13. ,, ,, ,, (No. 278.)
Fig. 14. ,, ,, ,, (No. 457.)
Fig. 15. ,, *falkensteini*, p. 598. (No. 188 A.)
Fig. 16. *Cinnyris verticalis*, p. 608. (No. 462.)
Fig. 17. *Andropadus latirostris*, p. 602. (No. 134.)
Fig. 18. ,, ,, ,, (No. 325.)
Fig. 19. ,, ,, ,, (No. 556.)
Fig. 20. *Cinnyris obscurus*, p. 607. (No. 451.)
Fig. 21. ,, ,, ,, (No. 506.)
Fig. 22. ,, *batesi*, p. 606. (No. 476.)
Fig. 23. ,, *minullus*, p. 610. (No. 487.)
Fig. 24. ,, *chloropygius*, p. 609. (No. 454.)
Fig. 25. ,, ,, ,, (No. 490.)
Fig. 26. ,, ,, ,, (No. 414.)
Fig. 27. ,, *obscurus*, p. 607. (No. 167.)

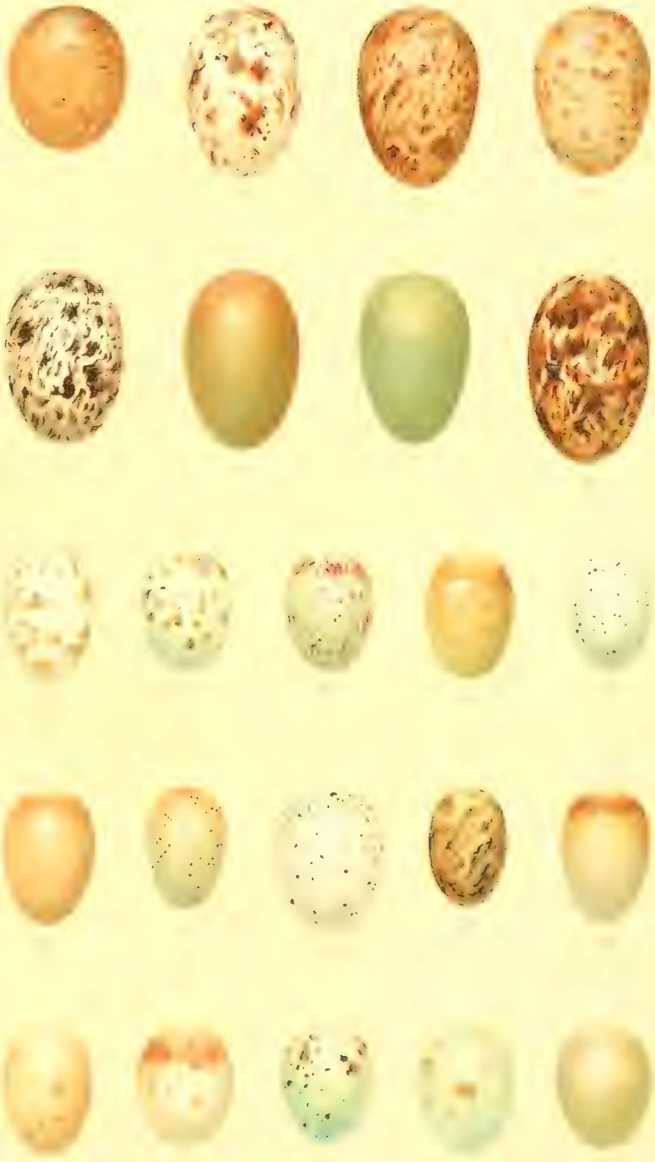


EXPLANATION OF PLATE XII.

Figures of the Eggs of West African Birds.

[The numbers in brackets are those of the eggs, as marked on the egg-shell.]

Fig. 1. *Turdinus fulvescens*, p. 624. (No. 518.)
Fig. 2. ,, ,, ,, (No. 286.)
Fig. 3. ,, ,, ,, (No. 226.)
Fig. 4. ,, ,, ,, (No. 225.)
Fig. 5. ,, *batesi*, p. 625. (No. 455.)
Fig. 6. *Cossypha cyanocampta*, p. 626. (No. 393.)
Fig. 7. ,, ,, ,, (No. 265.)
Fig. 8. *Alethe castanea*, p. 623. (No number.)
Fig. 9. *Burnesia leucopogon*, p. 615. (No. 391.)
Fig. 10. ,, ,, ,, (No. 314.)
Fig. 11. ,, *bairdi*, p. 615. (No. 375.)
Fig. 12. ,, ,, ,, ("m.")
Fig. 13. *Camaroptera griseoviridis*, p. 619. (No. 389.)
Fig. 14. *Cisticola erythrops*, p. 612. (No. 126.)
Fig. 15. *Apalis binotata*, p. 618. (No. 525.)
Fig. 16. *Calamocichla rufescens*, p. 613. (No. 592.)
Fig. 17. *Sylviella denti*, p. 621. (No. 62.)
Fig. 18. *Cisticola erythrops*, p. 612. (No. 254.)
Fig. 19. ,, ,, ,, (No. 85.)
Fig. 20. ,, ,, ,, (No. 239.)
Fig. 21. ,, ,, ,, (No. 352.)
Fig. 22. ,, ,, ,, (No. 306.)
Fig. 23. ,, ,, ,, (No. 571.)



was found. Even though the wings of the butterflies had been removed and the bodies crushed in swallowing, yet some characteristic part, as the head with the curled proboscis, or the peculiar legs or abdomen, would sometimes have been recognized if they had frequently been present, at least when I was particularly looking for them.

For its bearing on the point above mentioned, as well as for its more general interest, a summary of a count of the entries in my note-books during six years, of the different kinds of insects and similar small creatures found in birds' stomachs, is here given. Larvæ of insects were not counted.

Coleoptera were recognised and recorded in 213 stomachs; Orthoptera in 177; Ants in 57 (mostly in stomachs of birds of the genus *Dendromus*); other Hymenoptera in 8; Cocci in 32; Rhynchota in 19; Termites in 31; Slugs and Snails in 24; Spiders in 85 (mostly stomachs of Sunbirds); Millipedes in 20; some other kinds of insects or small animals each in one or two stomachs; Butterflies in none!

SUPPLEMENTARY NOTE.

Since writing the first part of this paper (see above, p. 479) I have had the great pleasure of a short visit to the Museum of the Academy of Sciences of Philadelphia, where, with the very kind and cordial assistance of Mr. Witmer Stone, I was enabled to see the types of some of Cassin's species. In the preceding pages appear the results of my examination of the types of *Turdirostris fulvescens* and *Geocichla compsonota*. But regarding two birds belonging to Part I. of this paper, which was then already in the press, I take this opportunity of reporting as follows:—

A comparison of one of my specimens of *Alseonax olivascens* (see above, p. 522) with Cassin's type leaves no doubt that it is identical with Cassin's *Parisoma olivascens*. An examination of the type of Cassin's *Butalis epulatus* likewise shews that it is Sharpe's *Alseonax fantisiensis* (see above, p. 521).

XXVI.—*A Further Contribution to the Ornithology of Cyprus.*

By John A. Bucknill, M.A., F.Z.S., M.B.O.U.*

I was again stationed in Cyprus in 1910 and up to the time of writing this in 1911 (May), and was consequently enabled to accumulate a good deal more information about the island's avifauna.

Several circumstances combined to make the period exceptionally interesting. First, the spring of 1910 was very wet: the rains continued until late, with the result that some of the lakes and reservoirs remained more or less supplied with water throughout the summer—of which circumstance many interesting species of birds took advantage and stayed to nest. The Great Crested Grebe, Dabchick, Coot, Moorhen, Lesser Tern, Garganey, Shoveler, Tufted Duck, Marbled Duck, and Kentish Plover were amongst this class. Secondly, the winter of 1910–11, for two and a half months, was unprecedently severe; snow lay at intervals in the plains, and people were actually frozen to death: no one living in the island remembers such rigorous weather. The Anatolian Taurus must have been ice-bound from end to end, and in the Levant, Jerusalem had the unheard-of experience of being under snow. All kinds of unusual ornithological visitors, driven down, I presume, from the north, crowded into the island. Amongst those hitherto unrecorded were the Whooper Swan, White-fronted Goose, and Red-crested Pochard; Sheldrakes (Ruddy and Common), White-eyed Pochards, and other usually rare Ducks were to be bought for a few piastres apiece; Great Bustards were shot, and, to our horror, devoured by a station-master, who was unaware of our gold offered for a specimen. Little Bustards, Golden Plovers, and Woodcocks were abundant, and I shot twenty-six Lapwings from a carriage on the drive between Nicosia and Papho. Fieldfares, very rare as a rule, swarmed, and so did Mistletoe-Thrushes, whilst we actually obtained a Redwing.

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* See 'Ibis,' 1910, p. 385.—The numbers prefixed to the names are those of Dresser's 'Manual of Palæarctic Birds.'

Great migrations of the Hawfinch and the Eastern Ring-Ousel (both practically unknown here hitherto) occurred, and Greenfinches and Reed-Buntings were almost as common as Sparrows. Altogether it was a very remarkable year, and I do not suppose that such a season is likely to occur again for many a long day.

Apart from all this excitement, we managed to make some more regular observations. We obtained the Moustached Warbler; found the Stone-Curlew breeding, and took its eggs, as well as those of the Quail, Meadow-Pipit, Short-toed Lark, Great Spotted Cuckoo (with the Magpie as host), Roller, Bee-eater. Barn-Owl (which is clearly a resident), Cyprian Tree-Creeper, Cretzschmar's Bunting, Little Ringed Plover, and Cyprian Scops Owl. We proved with certainty that the Cyprian Pied Chat is only a summer visitor, that the Fantail-Warbler is a resident, and that many Crag-Martins stay throughout the year.

We obtained many rare Cyprian birds: the Spotted Redshank, Marsh-Sandpiper, Barred Warbler, a genuine Goshawk, a White-tailed Eagle, the Rock- and Blue Rock-Thrushes, the Red-spotted Bluethroat, and many others, details as to the more interesting of which I have given in the list below.

Much of the credit of the work thus done by members of the Cyprus Natural History Society is due to Mr. F. R. S. Baxendale, who, having been promoted to the Commissionership of Famagusta, has diligently worked that rich marsh-district: to Mr. G. F. Wilson, who has scoured the Nicosia neighbourhood; and to Mr. Greenwood and Mr. Ansell, I.S.O., at Larnaca, with Horsbrugh at Pseuda. When, therefore, I speak of "we" I am only the chronicler, though I have, of course, handled all their specimens. For some identifications our best thanks are due to Dr. Hartert, the Rev. F. C. R. Jourdain, and Mr. M. J. Nicoll.

A word should be said about one special expedition. Mr. Baxendale, in the second week of May 1911, made a most interesting though short visit to the Klides Islands, which lie to the extreme north-east of Cyprus, at the end of the forty-mile "horn": these islands are uninhabited, and are never visited except by an occasional fisherman; indeed, the last ten miles of the promontory are practically desolate. The largest island has a little coarse grass, a kind of stone-crop, and a spring of fresh water which is said to be dry in summer.

Mr. Baxendale found there the Mediterranean Gull breeding in considerable numbers and brought me several eggs, a Lesser Peregrine's nest with two young and one addled egg (four dead Quail and a Shearwater (?) formed the larder), also a few Shags which were nesting, a number of Rock-Doves, and a few Turtle-Doves. On the peninsula were many Wheatears, one or two Ruffs, nests of the Red-rumped Swallow (of which Mr. Baxendale took the eggs), and other common birds. The wind rose, and Mr. Baxendale had some difficulty in getting back to the mainland—a three-hours' row.

1. Turdus viscivorus Linn.

The very severe weather in January and February 1911 brought in hundreds of Mistletoe-Thrushes, which were shot in numbers all over the island, and exposed for sale with strings of the Common Thrush in the bazaars. The last note that I had of their stay was on March 26th, but nearly all had gone by the end of the first week of that month.

2. Turdus musicus Linn.

This species was exceptionally abundant last winter, and when the cold weather broke in mid-March it sang beautifully everywhere—not a usual occurrence here.

7. Turdus iliacus Linn.

Though fully expecting to come across the Redwing in the exceptionally cold winter of 1910-11, and though we all looked out for it carefully, I only discovered one—a male, obtained at Larnaca on February 24th by Mr. W. J. Ansell.

Schrader states that this species "is found everywhere"; but this is an error. This specimen is the first and only properly identified example from the island.

9. TURDUS PILARIS Linn.

Usually decidedly rare, the Fieldfare was quite common last winter. From October 30th, 1910, to the third week in February 1911 it appeared all over the island, but was particularly abundant in January and in the first week of February.

24. Subsp. TURDUS ALPESTRIS C. Brehm.

Though I mentioned this bird in my previous paper on the Ornithology of Cyprus, I had been unable to obtain a specimen to satisfy myself as to its identity.

However, on the 15th of July, 1910, Mr. G. F. Wilson saw a specimen on a rocky stream in the Troödos Mountains, and on October 13th an immature male was taken on bird-lime at Ormidhia, near Larnaca, and sent to Mr. T. Greenwood. From him it went to Mr. G. F. Wilson, in whose collection I saw it.

None of these circumstances at all prepared us for what followed. Driven down, I imagine, by the heavy snows on the Taurus range in Cilicia, a regular swarm of the Eastern Ring-Ousel invaded the island about mid-February: one man shot twenty in one day! We obtained, of course, numerous specimens; many were sold as food in the bazaars. They frequented the gardens even in Nicosia town itself, and fed on ivy-berries. They mostly disappeared about the first week in March, though one was still to be seen in Nicosia as late as the 21st. No Cypriote, so far as I could ascertain, recognised or had ever seen the bird before.

25. MONTICOLA SAXATILIS (Linn.).

Mr. Baxendale saw a single Rock-Thrush at Kantara Castle (Kyrenia Mountains) on July 24th, 1910; he shot a fine adult female on the roof of a house at Famagusta on March 5th, 1911, and a splendid adult male at a place called Platanissa on the 23rd of the same month.

27. MONTICOLA CYANUS (Linn.).

We have obtained several Blue Rock-Thrushes in different parts of the island during the last two years: in March, April, July, October, and November.

29. Cinclus melanogaster Brehm.

Cinclus olympicus Madarász.

At the beginning of July 1910 Mr. G. F. Wilson found three young birds, unable to fly, at the Caledonia Falls, on Troödos (5000 ft.). The Cyprian Dipper was often seen by me last summer in the same place.

46. Saxicola morio Hempr. & Ehr.

Saxicola cypriaca E. F. Homeyer.

Saxicola morio Hempr. & Ehr.

We have cleared up satisfactorily the question of the status in Cyprus of the Cyprian Eastern Pied Chat by careful observation. It is not a resident, but only a summer visitor, and many individuals are merely birds of passage at the migrations. It leaves Cyprus at the end of October and beginning of November, and reappears about the second week in March. We all independently came to the same conclusion. Of course, we could not visit the mountains in the depth of winter, but it is hardly conceivable that the bird would stay on those bleak heights and flee from the hospitable plains.

55. Saxicola melanoleuca (Güld.).

Mr. Baxendale obtained two more specimens of the "Eastern" form of the Black-throated Wheatear near Famagusta, both males, on March 21st and April 2nd, 1910, respectively. They were kindly identified by Mr. M. J. Nicoll.

56. Saxicola albicollis (Vieill.).

(A) *Saxicola amphileuca* Ehr.

(B) *Saxicola hispanica xanthomelæna* = *S. albicollis* Temm.

Apparently we get both the Eastern and Western forms of the Black-eared Wheatear here on migration. Mr. Baxendale shot a male on April 3rd, 1910, of A (the Eastern form) at Famagusta, and a male and female of B near the same place on the 7th and 8th of April, 1911. They were all kindly identified by Mr. M. J. Nicoll.

57. Saxicola finschi Heugl.

Further observation proves that the Arabian Chat is quite a common winter visitor on suitable ground. It arrives about the middle of November and leaves at the end of March.

We obtained numbers, a good many of which were identified by Mr. Nicoll.

63. Saxicola isabellina Rüpp.

Schrader states that the Isabelline Chat arrives at the end of February and remains till nearly the end of September. We have never managed to obtain it yet, though we have shot many Chats during the last two years.

94. Cyanecula suecica (Linn.).

The Red-spotted Bluethroat is no doubt a regular winter visitor, and may probably be found in any really suitable locality. At the freshwater lake near Famagusta—an ideal place for the bird—Mr. Baxendale has obtained some half a dozen specimens in October, January, February, and March during the past two winters, and has seen several more.

109. Sylvia nisoria (Bechst.).

The Barred Warbler is evidently a migrant in autumn, and perhaps, too, in the spring, though we have not yet obtained it at that season. On the Kyrenia range, in mid-September, Mr. Baxendale procured three examples, one of which was identified by Mr. M. J. Nicoll.

122. Sylvia atricapilla (Linn.).

The Blackcap we had under observation in Nicosia during the whole of the winter, and at intervals we shot a specimen ; so there can be no doubt that some numbers stay.

Mr. Pierides, Mr. Horsbrugh, and others watched carefully the strings of "Beccaficoes" brought to the Larnaca market by the peasants during the autumn migration in 1910, with rather interesting results. Amongst the bag of "limed" birds taken in the first half of October were over a hundred Robins, several Common Redstarts, Lesser Whitethroats, Cyprian Pied Chats, and an Eastern Ring-Ousel ; and in September a Kingfisher (*Alcedo ispida*).

123. Sylvia orphea Temm.

Sylvia jerdoni (Blyth).

Sylvia hortensis crassirostris Hartert, Vög. Pal. Faun. i. p. 581.

The Orphean Warbler is evidently a regular visitor on migration in spring and autumn. We obtained several at the end of March, the beginning of April, the end of August, and the beginning of September in different localities. Dr. Hartert was kind enough to identify a few which I sent to him.

126. Sylvia melanothorax Tristram.

The Rev. F. C. R. Jourdain kindly pointed out in this Journal (1910, pp. 216 & 217) that the eggs of the Palestine Warbler were taken by Glaszner in 1906, and that two clutches are in the Tring Museum. Glaszner is a very careful collector, and I have no doubt that he is correct in his identification. The bird certainly nests in places on the Kyrenia hills, as Mr. Baxendale found and obtained both old and young near Kantara in August and September; he says it is of very skulking habits in the bushes, and cocks its tail like a Dartford Warbler. The nest, Glaszner says, is extremely hard to find.

136. Phylloscopus trochilus (Linn.).

We obtained a number of specimens of the Willow-Wren in the spring and autumn; it appears to arrive about the middle of March, and reappear in August and September.

137. Phylloscopus sibilatrix (Bechst.).

Phylloscopus sibilatrix erlangeri Hartert.

I sent a rather brightly-coloured male Wood-Wren, shot by Mr. G. F. Wilson at Nicosia on April 26th, to Mr. M. J. Nicoll, who pronounced it to belong to Hartert's subspecies.

138. Phylloscopus bonellii (Vieill.).

Phylloscopus bonellii orientalis Hartert.

Mr. Baxendale shot a male Bonelli's Warbler at Famagusta on April 8th, 1911, which Mr. M. J. Nicoll states belongs to the form mentioned above.

168. Acrocephalus streperus (Vieill.).

The Reed-Warbler turns out to be not uncommon in suitable places. We obtained several from March 12th to May 17th. It is quite probable that some nest in the reed-beds in the neighbourhood of Famagusta; nearly all our specimens came from the freshwater lake near that town. Apparently it does not occur in winter.

170. Acrocephalus arundinaceus (Linn.).

Acrocephalus turdoides, B. O. U. List, p. 19.

The Great Reed-Warbler we find to be a regular and not uncommon spring and autumn visitor to localities where there are reedy marshes. Mr. Baxendale, Mr. Wilson, and Mr. Horsbrugh shot and saw specimens in various localities between March 26th and the first week in May, mostly at the freshwater lake and Acheritou reservoir.

175. Acrocephalus schœnobænus (Linn.).

Acrocephalus phragmitis (Bechst.) B. O. U. List, p. 20.

We find the Sedge-Warbler a regular spring and autumn migrant in suitable places. Mr. Baxendale obtained and observed numerous specimens at the freshwater lake and Kouklia reservoir between March 10th and the middle of May, and again in October.

182. Lusciniola melanopogon (Temm.).

I am glad to be able to add the Moustached Warbler to the list of Cyprus birds. Mr. Baxendale obtained a male in good plumage on March 19th, 1911, at the freshwater lake, Famagusta.

194. Cettia cettii (Marm.).

Cettia sericea (Temm.) B. O. U. List, p. 22.

Mr. Baxendale heard Cetti's Warbler at the freshwater lake, Famagusta, in May, though he did not obtain a specimen: but on June 6th, 1909, he shot at Papho a very juvenile example, which Mr. M. J. Nicoll, who kindly identified it, considers must have been bred in the island. It is evidently uncommon.

199. Cisticola cursitans (Franklin).

Careful investigation has proved that the Fantail-Warbler is a resident in some localities. At the freshwater lake, Famagusta, Mr. Baxendale had it under observation the whole year, and it bred there in some numbers; the young birds left the nest during the first week in June.

287. Certhia familiaris Linn.

Certhia brachydactyla dorotheæ Hartert.

I found a nest of the Cypriote Tree-Creeper, with young and one unfertile egg, in a hole in a wall on Troödos (at about 5000 feet) in early July 1910. The ground-colour of the eggs was whitish, and the obtuse end was thickly zoned with reddish-brown blotches. Size: 16 × 12 mm.

313. Anthus pratensis (Linn.).

I think that a few Meadow-Pipits must nest with us, as on May 7th, 1910, I had four fresh eggs brought to me, taken in the fields close to Nicosia, which I cannot ascribe to any other bird. The species is abundant from November to April.

315. Anthus trivialis (Linn.).

We obtained a few Tree-Pipits during September.

317. Anthus cervinus (Pall.).

We found the Red-throated Pipit quite abundant on both migrations, and obtained specimens between March 18th and May 2nd, and again between September 26th and November 8th.

323. Anthus campestris (Linn.).

I had two eggs brought to me on May 7th, 1910, taken on the ground near Nicosia. They are certainly Pipits', and I think probably those of the Tawny Pipit. Mr. Jourdain, who saw one, could not express any confident opinion as to their identity. They were certainly neither Meadow- nor Tree-Pipits' eggs.

The Tawny Pipit must be very uncommon in Cyprus, as none of us have ever got a specimen.

379. Muscicapa collaris Bechstein.

We found the White-collared Flycatcher fairly common everywhere at the end of March and in April.

388. Hirundo rustica Linn.

In 1910 a Swallow arrived with a small bell attached to its foot and nested in my stable. I could not ascertain that the bell had been attached by anyone in the island. I caught the bird and examined the bell—a child's toy. The bird hatched its young, and did not return—at any rate, with the bell—this year.

393. Hirundo rufula Temm.

Our observations now shew that the Red-rumped Swallow arrives at the end of March and in early April, leaving in early September: earliest date March 23rd, and latest date September 26th. Mr. Baxendale found it nesting in abundance near Kantara Castle, and took fresh eggs on May 10th.

396. Chelidon urbica (Linn.).

The House-Martin arrives about the last week in March, and leaves at the beginning of October. I found numbers in the Kyrenia Pass, on the northern range. Mr. Baxendale saw a single bird on December 11th, 1910, at the freshwater lake.

400. Cotyle riparia (Linn.).

The Sand-Martin was found quite regularly in spring and autumn—in April and again in mid-October.

402. Cotyle rupestris Scop.

The Crag-Martin is a partial resident, and considerable numbers frequent the rocky southern coasts of the island throughout the winter. I found them near Papho even in the bitter January of this year: they are well known there to the local sportsmen as "πετροχελιδόνι." I found them also nesting in the Kyrenia Pass along with the House-Martin.

407. CHRYSOMITRIS SPINUS (Linn.).

Schrader stated that the Siskin "appears in autumn," but, so far, I have nothing to add to my previous notes on this species.

412. SERINUS HORTULANUS Koch.

I found young Serins leaving the nest on Troödos in early July.

416. LIGURINUS CHLORIS Linn.

Ligurinus chloris aurantiventris (Cab.).

My previous notes on the occurrence of a Greenfinch in Cyprus require considerable amplification. First, Dr. Hartert tells me that Glaszner sent five specimens to the Tring Museum, taken in March 1905; secondly, in February and March of both 1910 and 1911 Greenfinches have occurred in Cyprus in abundance. We obtained numerous specimens from all parts of the island, and scores were exposed for sale as food in the bazaars. The colouring varied somewhat: some were vividly bright, others comparatively sober. I sent a few to Mr. M. J. Nicoll, and two to Dr. Hartert: the former says that they appear to be nearest *L. c. aurantiventris*; the latter that they are very nearly as bright as *L. c. aurantiventris*, and probably the same as the bird from Greece called *L. c. mühlei* by Parrot (Journ. f. Orn. 1905, p. 649).

However, this last March we obtained some most brilliant specimens, which are, I should think, certainly *L. c. aurantiventris*. They had all left by the middle of March.

The Greenfinch is clearly an abundant winter visitor in some years.

421. COCCOTHRAUSTES VULGARIS Pall.

A horde of Hawfinches invaded Cyprus during the very cold weather in 1911. My first record was on January 31st, and my last on March 23rd. We obtained quite a number in various localities. I suppose that they were driven over from the Cilician Taurus, then a vast snow-covered mass—a glorious sight from Kyrenia. Old residents here tell me that some years ago the species occurred once before in the island in small numbers.

426. Passer hispaniolensis (Temm.).

I do not think that the Spanish Sparrow is common in Cyprus. Mr. Baxendale shot a fine male on March 22nd, 1911, in the Famagusta district, which, to make sure of, we had identified by Mr. M. J. Nicoll.

458. Linota cannabina (Linn.).

Linota cannabina mediterranea Tschusi.

Mr. W. J. Ansell sent me what I thought was a strange-looking bird of the Linnet type; on submitting it to Mr. Nicoll, he identified it as *L. c. mediterranea* Tschusi. It was shot on February 22nd, 1911. I certainly do not think this is the ordinary form which we get here.

515. Emberiza hortulana Linn.

The Ortolan is evidently not quite so uncommon as I supposed, and is no doubt a regular visitor in small numbers on the migrations. Schrader stated that "it appears about April 26th and stays over the summer"; but I am doubtful whether this is correct. Mr. Wilson shot a male on September 8th, 1909, near Nicosia, and Mr. Baxendale a female from a small flock in the Famagusta district on May 6th, 1910. Both were identified by Mr. M. J. Nicoll.

517. Emberiza cæsia Cretzschm.

Mr. A. K. Bovitt found Cretzschmar's Bunting nesting this year on the Kyrenia mountains, and brought me two eggs taken from a nest at the root of a cistus bush growing out of a bank. They measure ·78 × ·63 and ·78 × ·62 inch respectively: they were taken on May 6th and were slightly incubated.

533. Emberiza schœniclus Linn.

Emberiza schœniclus canneti Hartert.

The Reed-Bunting, hitherto only once recorded from Cyprus, is another species which has come before us very prominently on closer investigation of the marshes. It is evidently quite a regular and almost abundant winter visitor to suitable localities from the beginning of November till the end of March. We obtained numerous specimens in the reed-beds near the Limassol salt-lake, at the fresh-water lake, Famagusta, near Nicosia, and at Morphou. Indeed, at the second-mentioned locality Mr. Baxendale has seen hundreds. I sent a few to Dr. Hartert and Mr. Nicoll, who identify them as *E. s. canneti*, the South-European form.

558. Corydus cristatus (Linn.).
Alauda cristata Linn , B. O. U. List, p. 171.
Galerita cristata cypriaca Bianchi.

I sent a number of Crested Larks collected in different parts of the island in the spring of 1910 to Mr. Nicoll. They were all identified by him as *G. c. cypriaca* Bianchi (Bull. Acad. Sci. Petersburg, 1907, xxv. p. 65).

560. Calandrella brachydactyla (Leisl.).

Some numbers of Short-toed Larks nest in the island, as I had half a dozen clutches of fresh eggs brought to me during May 1910.

Migrating flocks occurred in April and mid-October.

567. Sturnus vulgaris Linn.

568. Sturnus purpurascens Gould.
Sturnus porphyronotus Sharpe.

569. Sturnus poltaratskyi Finsch.
Sturnus vulgaris græcus Tschusi & Reiser.
Sturnus vulgaris balcanicus Buturlin & Harms.

Older residents in Cyprus than I am had told me of the large flights of Starlings which visit the island during some winters. From the beginning of November till about the middle of March in the winter of 1909–10 very large flocks occurred. In Nicosia and its outskirts, which are well-provided with groves of tall eucalyptus and other trees, great companies numbering many thousands roosted nightly, streaming in in serried ranks just before dusk and wheeling out at dawn, running a fusillade from dozens of native gunners posted just outside the municipal limits (within which one may not fire guns), and watched always high overhead by half a dozen Hawks. The trees were covered with the birds, and the noise of their chattering was deafening. But in such big packs they have none of the airs and graces of our familiar bird at home in England and none of their imitative and pretty notes, but only a ceaseless squeak. My impression is that the large majority were *S. purpurascens*, and the most unaccomplished observer could see and hear that most of them were not our English bird. We obtained, of course, numerous specimens. In the winter of 1910–11 no such invasion occurred, though the usual scattered parties appeared as they always do. I sent a number away for identification to Dr. Hartert and Mr. Nicoll.

616. Cypselus melba (Linn.).

Mr. Baxendale discovered hundreds of the White-bellied Swift nesting in June and July near Kantara Castle. Our observations shew that it arrives at the end of February and beginning of March (earliest date, February 20th), and leaves towards the end of September (last date, September 28th).

663. Coracias garrulus Linn.

We found the Roller nesting in many localities in May and June.

669. Upupa epops Linn.

Mr. Nicolls found a nest with young in a hole in a wall on Troödos, on June 2nd, 1910.

674. Coccystes glandarius (Linn.).

We took seven eggs of the Great Spotted Cuckoo in clutches of Magpies' eggs in April and May 1910.

689. Asio accipitrinus (Pall.).

Asio brachyotus, B. O. U. List, p. 86.

We have obtained several examples of the Short-eared Owl in the winters of the last two years.

692. Scops cyprius (Mad.).

In April and May 1910 I obtained several clutches of eggs of the Cyprian Scops Owl: one of six from the side of a deep-walled well and another from a hole in an unused building.

709. Aluco flammeus (Linn.).

Strix flammea, B. O. U. List, p. 85.

There is no doubt, now, that the Barn-Owl is a resident, as we obtained at Larnaca a female and three young alive on May 2nd, 1910, and I took a clutch of three fresh eggs from a hole in a cliff near Nicosia on March 18th, 1911.

We obtained other specimens of the bird in January, May, and September.

718. Circus swainsoni Smith.

The Pallid Harrier is quite common: in the first week of April 1910 there was quite a large migration, and Horsbrugh obtained several examples; the crop of one contained a Little Owl.

721. Buteo vulgaris Leach.

Horsbrugh shot a female on the 21st of March, 1910, at Kouklia reservoir: its crop contained a small snake and some lizards and scorpions.

730. Hieraëtus fasciatus (Vieill.).

I had a pair of eggs of Bonelli's Eagle sent to me by Mr. R. L. Michell of Limassol. They were highly incubated, but proved amenable to strong caustic potash: they were taken in the Troödos range on February 12th, 1911, and each measured 2·7 × 2·1 inches.

735. Aquila heliaca Savigny.

We were lucky enough to obtain several specimens of the Imperial Eagle in different parts of the island: one, a fine male, was knocked over, whilst feeding on a dead sheep, by a stone thrown by a peasant, and brought alive to Horsbrugh at Larnaca.

739. Haliaëtus albicilla (Linn.).

Mr. Baxendale shot a large immature male on November 16th, 1910, feeding on carrion not far from Famagusta.

This is the first specimen of the White-tailed Eagle actually obtained in the island.

745. Astur palumbarius (Linn.).

It is satisfactory to be able to remove any doubt as to the occurrence of the Goshawk in Cyprus. When shooting in a thick fir wood near Asprokremno, on Troödos, on the opening day of the season last year (August 12th), Mr. H. McLaughlan, who was with me, shot a fine immature male. To make certain of its identity I sent it to Mr. Nicoll.

756. Pernis apivorus (Linn.).

Mr. G. F. Wilson shot a fine Honey-Buzzard near Nicosia on September 18th, 1910.

765. Falco punicus Levaill.

The Lesser Peregrine was found nesting on the Klides Islands by Mr. Baxendale, who discovered an eyrie with two young birds and an unfertile egg on a ledge of rock with an overhanging top: the nestlings were white with white legs and pale bluish bills; they were lying on the bare rock, and the old birds were both close by. One nestling was much bigger than the other, and the two parents were considerably different in size. The egg measured 2·06 × 1·547 inches.

770. Falco eleonoræ Gené.

The Rev. J. Smale kindly gave to me a fine male specimen of La Marmora's Falcon, which he had shot on Troödos on August 6th, 1909.

771. Falco vespertinus Linn.

Tinnunculus vespertinus Gray, B. O. U. List, p. 103.

We find that the Red-footed Falcon is a regular visitor in spring and autumn. Large parties, consisting of from a dozen to over a hundred birds, appeared at the end of April and beginning of May 1910, and we noticed a good many at the beginning of September and end of October of the same year—mostly young birds. We obtained numerous examples.

776. Phalacrocorax carbo (Linn.).

Mr. Baxendale bought a male Cormorant from a native gunner at Famagusta on December 22nd, 1910.

788. Ardea cinerea Linn.

A few Grey Herons remained in the marshes near Famagusta throughout the winter.

789. Ardea purpurea Linn.

We obtained the Purple Heron on both migrations, from the end of March till the beginning of June, and again in mid-October. It is quite common.

800. Nycticorax griseus (Linn.).

We also obtained the Night-Heron on both migrations—from mid-April till the beginning of June, and from mid-August till mid-September. It is fairly common.

824. Anser albifrons (Scop.).

The White-fronted Goose was one of the species new for Cyprus which the exceptionally cold winter brought us. A female was shot by Mr. G. B. Amirayan's shikari in December 1910, from a party of three on some flats near the sea, at a place called Aphendrika, in the Famagusta district, and was given to Mr. Baxendale. Another was shot on the Larnaca lakes early in 1911, and acquired for Mr. Ansell's collection.

837. Cygnus musicus Bechst.

The Whooper Swan was another of last winter's additions to the Cypriote list. About Christmas I heard reports that Wild Swans were round the coasts, and on December 28th, 1910, Mr. Baxendale bought a young male Whooper from a native gunner. It had been shot on the Spathariko Marsh, close to the sea in the Famagusta district; it was in poor condition; its flesh, though dark, was tender, but rather flavourless. The gunner had watched it for several days, and it had, to use his words, "smelt his powder" more than once before he eventually shot it from a shelter.

It was said that there was a flock of fourteen individuals in the neighbourhood.

About the same time "a pure white Swan" was for sale in Limassol market, but was eaten before I could ascertain to what species it belonged.

Chenalopex ægyptiacus (Linn.).

The Egyptian Goose appeared almost immediately after the first rains in December 1910: first four, then seven appeared on a little marsh near Nicosia, where they remained till about March 10th. They were too wary for us.

839. Tadorna cornuta (S. G. Gmel.).

Common Sheldrakes were very abundant from the middle of December 1910 until the end of February 1911 all over the island. They were excellent eating.

840. Tadorna casarca (Linn.).

Quite a number of Ruddy Sheldrakes visited the coast in January 1911, and we obtained several.

844. Chaulelasmus streperus (Linn.).

Mr. Baxendale obtained the Gadwall at Kouklia reservoir at the end of May 1910, and two specimens in December 1910 in the Famagusta neighbourhood.

845. Spatula clypeata (Linn.).

The Shoveler has been very abundant from October to April during the past two winters; a few pairs nested at Kouklia reservoir, and I obtained a clutch of eight eggs from there on May 14th, 1910.

846. Marmaronetta angustirostris (Ménétr.).

The pretty Marbled Duck appeared in some numbers in the middle of April 1910 at the reservoirs, and a few pairs remained to nest at Kouklia. I obtained a clutch of seven highly incubated eggs from Kouklia on July 5th, and several young birds were shot there on the 1st of September—the opening day for Duck-shooting.

848. Querquedula circia (Linn.).

The Garganey appeared in early April, and some nested at Kouklia. I obtained a clutch of nine eggs there on May 14th, and some young birds were shot in September. We also obtained one or two specimens during the winter.

856. Æthyia rufina (Pall.).

The Red-crested Pochard was another visitor during last winter not hitherto recorded from Cyprus. A big flock must have reached the island at the beginning of December 1910, and Mr. Baxendale at Famagusta, Horsbrugh at Larnaca, and I at Nicosia, all bought birds in our respective bazaars on the 3rd. From that date up till the middle of February they were common all round the island, and even inland. They are very good on the table.

859. Æthyia fuligula (Linn.).

Fuligula cristata, B. O. U. List, p. 129.

A few Tufted Ducks stayed at Kouklia reservoir during the summer of 1910, and I obtained eggs on July 1st.

860. Æthyia nyroca (Güld.).

Nyroca ferruginea, B. O. U. List, p. 130.

Young White-eyed Ducks were shot at Kouklia on September 1st, and I think it is probable that they were bred there. We obtained a few specimens last winter.

877. Erismatura leucocephala (Scop.).

The White-headed Duck again appeared at the end of December 1910, Horsbrugh having obtained a female in the Larnaca market.

895. Turtur communis Selby.

We find that the Turtle-Dove nests fairly commonly in suitable localities in the *plains*: Horsbrugh took several clutches of eggs in his almond plantations at Pseuda in June.

904. Pterocles arenarius (Pall.).

Bunches of the Black-bellied Sand-Grouse seem to have dropped in, to swell the few residents, from the middle of September 1910 until the middle of November. At the river near Pyroi, a few miles from Nicosia, which at that date, before the rains, was one of the few places offering plenty of water, literally hundreds came down to drink: Mr. G. F. Wilson shot many. When the rains broke they no doubt scattered over the country, and only occasionally were a few seen. Of about a dozen Sand-Grouse which I handled all were of this species. Mr. Baxendale sent his three live birds to Major Boyd Horsbrugh, by whom they were deposited in the London Zoological Gardens.

911. Phasianus colchicus Linn.

In my previous notes in this Journal I mentioned our attempt to re-introduce the Pheasant. We divided our twenty-eight birds into two lots—one under the care of Mr. Barrett at the Athalassa farm near Nicosia, and the rest in Mr. T. Greenwood's aviaries at Larnaca. To the first lot a sad disaster happened, as in the spring, owing to the carelessness of a servant, a door of one of the pens was left ajar, and a fox got in and killed all except one cock and one hen, which escaped into the plantations. I turned out there another hen, as the cock was frequently seen again.

Mr. Greenwood was very successful, and had far more eggs than he could deal with : he reared some sixty birds. The early broods did very well, but those hatched in May remained stunted and dwarfed by the great heat of the summer, and only attained full growth when about eight months old. We turned out a number of birds high up on the Tröodos range in February this year, and others in one of the game-reserved areas. It is too early yet to say how they will eventually fare, but we know that some of the hens are sitting on eggs in the woods.

958. Coturnix communis Bonnaterre.

I found that the Quail breeds fairly freely in the barley, and I had eggs in early April from several different localities. I can often hear its nice little note all night from my bedroom window.

984. Rallus aquaticus Linn.

The Water-Rail we find to be a very common winter visitor from the beginning of October till the middle of March in all suitable localities. I had notes of quite thirty examples being shot last winter.

986. PORZANA MARUETTA (Leach).

The Spotted Crake we find very common in likely spots at the migrations, and a few stay for the winter: Mr. Baxendale thinks that some may have bred at the freshwater lake in May 1910, but they had all gone from there by June 3rd. We obtained specimens in March, April, May, October, and November.

987. PORZANA BAILLONI (Vieill.).

We obtained specimens of Baillon's Crake in March and April at the freshwater lake.

989. PORZANA PARVA (Scop.).

The Little Crake seems quite common in March and April at the freshwater lake, and Mr. Baxendale obtained one there as early as February 26th, 1911.

993. CREX PRATENSIS Bechst.

I had never heard the Corn-Crake call in Cyprus, but Mr. G. F. Wilson detected one on April 23rd, 1911, near Nicosia, walked it up and shot it. We got two more in the autumn of 1910.

998. GALLINULA CHLOROPUS (Linn.).

The Water-hen nested in the summer of 1910 on Limassol salt-lake, whence Mr. Michell sent me eggs taken in May.

999. FULICA ATRA Linn.

The Coot bred in very large numbers on Kouklia reservoir in the summer of 1910. I saw many eggs in April and May.

1010. OTIS TARDA Linn.

The Great Bustard occurred during the very cold weather of February 1911. We heard rumours of Wild Turkeys and offered ample rewards. Five were said to be at a place called Beila in the Larnaca district, and eventually a peasant found three near a village called Stroullos, and winged one with a long shot from his muzzle-loader. He chased it, according to his own account, for many miles, and despatched it, after what he vividly described as a desperate struggle, with repeated blows of his heavy dagger-knife. He brought the dilapidated monster (it weighed 19 lbs. without much blood in it) to Mr. Greenwood, who passed it to Glaszner to be skinned. Glaszner could do nothing with it, so Mr. Greenwood ate it and sent me the head! the flesh was dark and of good flavour. It was the head of an undoubted *Otis tarda.* About the 21st of February a peasant brought a specimen to one of the railway-stations called Styllos, on the Nicosia-Famagusta line: only the feathers of the wing, a foot, and some sad relics greeted Mr. Baxendale on his arrival in frantic haste at the scene: the station-master had, unknowingly, paid ten piastres and devoured a sovereign.

Enquiries elicited that there were three birds in this party. We heard no more of them.

1012. TETRAX CAMPESTRIS Leach.

Otis tetrax Linn. B. O. U. List, p. 154.

Quite a number of Little Bustards appeared in Cyprus in December 1909 and January 1910. I had notes of about a dozen being shot, and we obtained some good specimens. They are excellent eating.

1015. ŒDICNEMUS SCOLOPAX (S. G. Gmel.).

I had a fresh egg of the Stone-Curlew sent to me from Famagusta on May 7th, 1910: so we may conclude that some individuals nest with us.

1016. GLAREOLA PRATINCOLA (Linn.).

The Pratincole is evidently a regular visitor on its migrations. Mr. Baxendale obtained a male Pratincole from a flock of twenty at Kouklia reservoir on April 24th, 1910, and again observed the bird there on April 17th this year: he also obtained it at the same place on October 14th, 1910.

1022. SQUATAROLA HELVETICA (Linn.).

I am glad to confirm the alleged occurrence of the Grey Plover in Cyprus. Mr. Baxendale shot two from a flock of eight at Famagusta harbour on November 30th, 1910, and another on January 3rd, 1911, at the same place.

1028. Ægialitis cantiana (Lath.).

The Kentish Plover nested in considerable numbers on the margins of the freshwater lake in early June 1910 and in May 1911, and Mr. Baxendale obtained several clutches of eggs.

1032. Ægialitis curonica (Gmel.).

Mr. Baxendale found the Little Ringed Plover nesting at the freshwater lake near Famagusta this spring, and obtained eggs in early May.

1046. Recurvirostra avocetta Linn.

Mr. J. W. Ansell obtained a single Avocet on November 28th, 1910, at the Larnaca Salt Lake.

1047. Himantopus candidus Bonnat.

The Black-winged Stilt remained in small numbers throughout the summer of 1910 at Kouklia reservoir and the Larnaca lakes, and though we did not obtain the eggs, I have no doubt that it nested in both places. We obtained juvenile specimens in the former locality on September 1st.

1050. Scolopax rusticula Linn.

The winter 1910–1911 was a famous one for Woodcock: one party shot forty in two days, and twenty-six were obtained in one wood on February 12th, 1911.

1052. Gallinago major (Gmel.).

Mr. Baxendale shot a female Great Snipe near Famagusta on May 6th, 1910, and a very heavy male at the freshwater lake on April 26th, 1911.

1067. Tringa minuta Leisl.

We obtained a good many Little Stints in May and October.

1072. Tringa subarquata (Güld.).

The Curlew Sandpiper was quite common in the winter on the coast near Famagusta, where Mr. Baxendale shot a number of these birds. They are quite good on the table.

1080. Machetes pugnax (Linn.).

We found the Ruff abundant in all suitable localities from October to June.

1083. Totanus calidris (Linn.).

We obtained a good many Redshanks during the winter in the Famagusta marshes and near Larnaca.

1084. Totanus fuscus (Linn.).

Mr. Baxendale shot a fine male Spotted Redshank at Avgasida marsh on February 28th, 1911.

1085. Totanus glottis Naum.

Mr. Baxendale obtained a female at the Famagusta harbour on April 22nd, 1911.

1087. Totanus stagnatilis Bechst.

The Marsh-Sandpiper is probably a regular migrant. Mr. Baxendale shot five in April 1910 and 1911, all at the freshwater lake.

1089. Totanus ochropus (Linn.).

Helodromas ochropus, B. O. U. List, p. 174.

We found the Green Sandpiper quite common from September to April.

1091. Totanus glareola (Gmel.).

The Wood-Sandpiper we also found common from October to May.

1101. Limosa belgica (Gmel.).

The Black-tailed Godwit occurred in some numbers in June, September, January, and February. We obtained a number of specimens.

1111. Hydrochelidon leucoptera (Schinz).

The White-winged Black Tern appeared in considerable numbers at the freshwater lake in May 1910 and April 1911. Mr. Baxendale obtained several examples.

1122. Sterna minuta Linn.

The Little Tern nested in 1910 in some numbers at the freshwater lake and on the islands round Famagusta harbour. We obtained fresh eggs in June. It appeared in 1910 on May 14th, and in 1911 on April 22nd.

1133. Larus ridibundus Linn.

We obtained several Black-headed Gulls during the past winter: one shot on March 10th had a well-developed black head.

1139. Larus minutus Pall.

The Little Gull occurred in small numbers at the Larnaca lakes at the end of February 1911, and Mr. Ansell obtained some specimens.

1140. Larus canus Linn.

We obtained two examples of the Common Gull during the past winter.

1145. Subsp. Larus cachinnans Pall.

Mr. Baxendale found the Mediterranean Herring-Gull breeding in considerable numbers on the Klides Islands during May 1911, and also on the adjacent promontories of the mainland. He took fresh and slightly incubated eggs on May 11th. The nests were in slight depressions of the ground and were composed of coarse grass; those on the islands were situated on the top or on the sides of the highest part of the land. The eggs were of the usual Gull type, and the clutch was three.

1147. Larus fuscus Linn.

I observed half a dozen Lesser Black-backed Gulls on the sea-coast near Kyrenia in mid-April 1911.

1213. Podicipes cristatus (Linn.).

The Great Crested Grebe can always now be found on the reservoirs when there is water: it bred in numbers on Kouklia last year, and we obtained plenty of eggs.

1216. Podicipes nigricollis E. L. Brehm.

Although we did not find the nest last spring, I have no doubt that the Eared Grebe bred at Kouklia: it can always be seen there now.

1217. Podicipes fluviatilis (Tunstall).

The Little Grebe bred in large numbers on Kouklia reservoir last summer, and we had fresh eggs in mid-May.

XXVII.—*On some Birds observed in the Vicinity of Wei Hai Wei, North-East China.* By Staff-Surgeon K. H. Jones, M.B., F.Z.S., R.N., M.B.O.U.

Between 35° and 38° north latitude the coast of China tends strongly to the north and east, to form the conspicuous peninsula terminating in the promontory of Shantung, which separates the Strait and Gulf of Pechili from the Yellow Sea. On the northern shores of this peninsula and about twenty-seven miles from North-East Promontory, its easterly extremity, is the territory of Wei Hai Wei. Situated in latitude 37°·30 North, and longitude 122°·10 East, Wei Hai Wei comprises a considerable area of the mainland and an island, Leu Kung Tao, so placed that the water intervening between it and the coast forms a harbour of some size.

Leu Kung Tao is about two and a quarter miles long, and a mile wide at its broadest part. The long axis of the island runs approximately east and west. The island is hilly and somewhat rocky and barren, especially on its steeper northern slopes. The highest point is about five hundred feet above the sea-level. This island contains the naval establishment.

Leu Kung Tao is separated from the mainland by a wide strait to the eastward, and by a much narrower and deeper one to the westward. About half-way across the eastern entrance to the harbour is the rocky islet of Itan, surmounted by a ruined fort and fringed on one side by considerable reefs. The western entrance, towards its seaward opening, contains several small islets, which are favourite sitting-places of the Pelagic Shag, so plentiful at Wei Hai Wei.

On the mainland opposite to Leu Kung Tao is the walled city of Wei Hai Wei, whence the territory derives its name. Forty miles to the westward is Chefoo, and between these places and thirteen miles from the last-named is the rocky islet known as the White Rock.

To the east of Wei Hai Wei, and twenty-six miles away, is a bold headland formed by a mass of high land, bordered to the seaward by tall but crumbling cliffs, and known as the North-East Promontory, or Shantung Promontory, the most easterly land of China proper.

The North-East Promontory is separated from the other high land of the peninsula by a sandy plain of considerable size, on which are numerous small and several large fresh-water lagoons.

A few miles to the north and west of Shantung Promontory is Alceste Island, of small size, but possessing considerable cliffs, and of interest as a breeding-place of *Larus crassirostris,* the Bar-tailed Gull.

Eight miles to the westward of Alceste Island and at about a mile from the coast, is Kiming Island, considerably larger than the former and presenting fine cliffs on its seaward aspect.

Just opposite Kiming Island the mouth of a very large and shallow salt-water tidal lagoon opens into the sea, the shores of which in early autumn are thronged with Waders journeying south.

Some thirty miles to the south of North-East Promontory is South-East Promontory, situated on the island of Mur Tau and to the north side of Shi Tao Bay. At both North and South-East Promontories are placed powerful lights, which at the right seasons of the year attract immense numbers of migrants.

The country in the vicinity of Wei Hai Wei is hilly, barren, and rocky. The hills, which, on the mainland opposite to Leu Kung Tao, rise to a height of 1343 feet, are very rocky and barren, but planted in some places with small pines and scrub oaks. The valleys are scored with nullahs, worn away by the torrents which flow down from the hills in the rainy season.

The country is very badly wooded, almost the only trees which attain any size, except just round the villages, are those left to grow to maturity for semi-religious reasons. Firs, Oaks, and Willows form the majority of those small groves which are found in and about graveyards, and other places, where to cut wood is a crime.

Willows, often of considerable size, fringe some of the sandy watercourses which are to be met with in the flatter portions of the country.

The hills either slope gradually down to the sea-level, or become from their position on the coast bold headlands, or they may merge at their feet into the sandy flats which in so many places border the shores of the Shantung Peninsula, and provide breeding-grounds admirably suited to such species as *Calandrella pispoletta* and *Ægialitis alexandrina.*

The vicinity of Wei Hai Wei is very thickly populated, and the Chinese cultivate all the lower ground to the utmost limits of its productivity.

In the autumn and winter every stick and blade of grass that can be cut down or scraped from the ground is used as fuel, so that undergrowth has little chance to flourish.

Practically the only places where scrub and rank grass escape are the native cemeteries, which for this reason form sanctuaries for many species of birds.

The Shantung Peninsula is peculiarly well suited for the reception of migrating birds as they pass from north to south in autumn or in the reverse direction during the spring.

Korea is not much more than a hundred miles to the north and east, Port Arthur and the Kwantung Peninsula are still nearer and almost directly due north, and two hundred miles or so further north and west, across the Gulf of Pechili, lies Manchuria.

From all these lands, and from the vast spaces of North-eastern Asia which lie behind them, there pours down in early autumn a flood of migrants, and right across the southward track of very many of them stretches the Peninsula of Shantung.

The North-East Promontory appears to be a point at which many birds aim in their autumnal southward journey, and nowhere may more migrants be seen in August and September, especially after one of the north easterly gales so prevalent during the last-named month. The presence of a very powerful light on North-East Promontory doubtless attracts many birds to this place, particularly in stormy, cloudy weather.

From North-East Promontory most of the birds seem to pass along the coast to the southward, until they reach the vicinity of Shi Tao, whence a considerable number appear to strike out across the sea towards the mouth of the Yangtze Kiang.

Many migrants, however, arrive all along the coast between Wei Hai Wei and North-East Promontory, and doubtless towards Chefoo they are equally abundant.

To this part of China the writer of these notes made visits in 1901, 1902, and 1907: on the first two occasions in H.M.S. 'Waterwitch,' a surveying-vessel, and on the last to the Royal Naval Sick Quarters on Leu Kung Tao. In 1901 the 'Waterwitch' was engaged in surveying at Wei Hai Wei, and in searching for a supposititious shoal in the Pechili Gulf, from September 4th to the 14th, and some notes made during these ten days are incorporated in this article, as they are of some ornithological interest.

Whilst sheltering under the lee of a sandbank from a north-easterly gale in the neighbourhood of Taku, exceptional opportunities occurred for observing the migration of birds across the Gulf of Pechili from Manchuria. The observations made at this time are noted under the various species concerned.

In October 1901 a survey was also made of Shi Tao Bay, and there the arrival of many migrants was observed.

At Shi Tao, the writer made the acquaintance of the late Mr. C. A. Schwilf, a sportsman-naturalist, to whom, in the course of a long subsequent correspondence, he is indebted for many interesting notes and specimens.

In 1902 a survey of the coast of the Shantung Peninsula was made, as far to the west of Wei Hai Wei as White Rock, and to the east to the North-East Promontory and some ten miles to the south of it. In 1907 nearly all the notes were made either on Leu Kung Tao or on the mainland immediately opposite.

Unfortunately, the writer never arrived in Wei Hai Wei earlier than the last week in May nor remained there later than the middle of October, so that personal observations on the winter visitors are perforce omitted.

In the summer months the climate of Wei Hai Wei is cool, compared to places immediately north and south of it, but the winter is very severe for the latitude. When it is borne in mind that floating sea-ice is not unknown at Wei Hai Wei, and that its parallel of latitude in Europe crosses the south of Spain, it is obvious that the winter visitors must be of a more arctic type in Shantung than in the Iberian Peninsula.

On the question of local races and subspecies little will be found in these notes. That subspecies trinominally raised to specific rank exist in North-Eastern Asia is bewilderingly evident at the present time. The determination of such races appears to require an acuteness of vision, and particularly of colour-vision, such as is found in but few, and to which the writer can lay no claim.

The arrangement followed is in the main that of Dresser's 'Manual of Palæarctic Birds.' It is, of course, to be understood that this small contribution to the ornithology of North-East China in no sense sets forth a *list* of the birds of Wei Hai Wei. It is impossible to think of ornithology in connection with the Shantung Peninsula without calling to mind that Swinhoe, that great pioneer in Chinese zoology, spent the last months of his well-filled career in the country at Chefoo, only forty odd miles from Wei Hai Wei. Sent there to try and recover failing health, he nevertheless found time and energy sufficient to make the many interesting notes and observations recorded in 'The Ibis' of 1874–75, to which reference is made, on occasion, in this short article.

It has been thought desirable to give measurements of the eggs mentioned in these notes, as such particulars appear to have an interest for some ornithologists, and, as the notes are in English, the measurements are in inches and decimal parts of an inch.

TURDUS OBSCURUS.

The Dusky Thrush was seen, not infrequently, on passage at Leu Kung Tao during the first week of October. The birds were stragglers, and each was observed alone; there were no parties or flocks.

TURDUS PALLIDUS.

The Pale Thrush was observed once, on the mainland opposite to Leu Kung Tao, in the first week of October.

TURDUS VARIUS.

White's Thrush was only observed twice, on both occasions during the last week of September. On one occasion, as sometimes occurs, this species was shot in mistake for a Woodcock.

MONTICOLA CYANUS.

The Blue Rock-Thrush occurs fairly abundantly about Wei Hai Wei, both as a breeding species and as a migrant.

In the opinion of the writer the species (?) which is next mentioned is only a variety of *Monticola cyanus*.

MONTICOLA SOLITARIUS.

The Red-breasted Rock-Thrush is the form most often to be seen about Wei Hai Wei, where many pairs breed in the hills, often at no great elevation. The nest is well hidden as a rule, and the eggs are not, so far as can be ascertained, different in any way from those of the Blue-breasted form.

The earliest date for eggs is June 14th and the latest July 2nd. On one occasion at least a bird with a blue breast was observed obviously mated with an individual with a red breast.

The species may sometimes be heard singing on the wing, but apparently it is able to take a long downward glide only when it has attained a certain elevation.

Thirteen eggs average 1·00 × ·75 inch, and vary in length from 1·05 to ·95 inch and in width from ·79 to ·70 inch.

PHYLLOSCOPUS BOREALIS.

Eversmann's Warbler appeared at the end of May in great numbers on its way north, and some were still to be seen as late as June 8th. These birds are found returning about the middle of September. On the autumn migration the birds appeared to be in small parties or in pairs, and their numbers were not so obvious as in the spring.

PHYLLOSCOPUS SUPERCILIOSUS.

The Yellow-browed Warbler was observed on Leu Kung Tao on August 17th, on its way to the south of China.

PHYLLOSCOPUS CORONATUS.

This Willow-Warbler occurs at Wei Hai Wei during its southern migration. It was observed in September.

PARUS MINOR.

The Japanese Tit is moderately abundant about Wei Hai Wei. These birds are usually to be seen in pairs or in small parties, and they behave just as most other Tits do elsewhere.

The nest is placed in a hole in a tree or in a crevice in a wall, and is much like that of *Parus major*. The eggs from Shantung have very reddish markings in the few known specimens.

The local Chinese name "Chi-ta-chi" gives an excellent idea of the call-note.

PARUS PALUSTRIS.

The Marsh-Titmouse was observed on the mainland opposite Leu Kung Tao in company with *Parus minor*; it is not at all a common bird.

MOTACILLA LEUCOPSIS.

The White-faced Wagtail is a common summer visitor to Wei Hai Wei, and probably arrives early in April. The birds leave again about the latter part of September, during which month their numbers are largely augmented by those coming from further north. During August and September the family-parties, which are so commonly to be seen on the sea-shore earlier in the summer, join up to form flocks of considerable size, and it was not noted that on migration young and old birds were separated.

This Wagtail breeds commonly at Wei Hai Wei and Shi Tao, and very often places its nest in the crevice of a rock on the seashore, but sometimes among herbage in a nullah. At all times, however, this species displays a great liking for the vicinity of the sea. The nest is made of grass and lined with finer grass or horsehair. The earliest date for eggs is April 25th and the latest May 19th.

Four or five is the usual number of eggs in a clutch, but six were found on one occasion. The eggs are of two types, a brownish grey and a greenish grey. Twenty-six eggs from Shantung average ·79 × ·57 inch, and vary in length from ·89 to·73 inch and in width from ·53 to ·61 inch.

Motacilla ocularis.

This Wagtail occurs on passage, and was observed in September.

Motacilla melanope.

The Grey Wagtail occurs abundantly on migration at Wei Hai Wei. As many as eighty birds were seen in one flock, opposite to Kyming Island, on September 14th.

Whilst sheltering from a northerly gale, behind a sandbank off Taku, many of these birds came on board and proved very useful in catching and eating the large bluebottle flies which swarmed all over the ship to our great discomfort. This was during the first week of September.

Oriolus indicus.

Swinhoe met with this Golden Oriole at Chefoo during the summer months, and thought that it might breed there. It was observed once in June to the westward of Wei Hai Wei, so that Swinhoe may be correct. The great majority of these birds were seen on migration and particularly at North-East Promontory, where they were abundant during the first week of September.

At Leu Kung Tao this species was only noticed once, also in September. Most of the birds seen at North-East Promontory were immature, evidently the progeny of those which had bred further to the north.

LANIUS CRISTATUS.

This Shrike was observed on passage at Shi Tao in the month of October.

LANIUS LUCIONENSIS.

The Philippine Red-tailed Shrike is a common summer visitor to the vicinity of Wei Hai Wei.

This Shrike appears, in this part of China, not infrequently to place its nest in quite large trees. It is well built, but perhaps a trifle small for the size of the bird, which has the usual Shrike-like habit of sitting on the top of a bush or small tree when prospecting for prey, but it is not vociferous like so many others of its kind.

The eggs have been described by La Touche from Kiu Kiang. Six eggs from Shi Tao average ·89 × ·64 inch, and vary from ·92 to ·85 in length, and from ·63 to ·66 in width. They were laid about the middle of June.

LANIUS BUCEPHALUS.

This Shrike occurs about Wei Hai Wei as a breeding species, and Fleet-Surgeon J. H. Stenhouse found it nesting near Wei Hai Wei in the month of May.

HEMICHELIDON SIBIRICA.

Siberian Flycatchers come in to Wei Hai Wei and all along the coast of the Shantung Peninsula at the end of August and early in September, and, indeed, most of the last-named month. The first gale from the north-east, at this time of year, is sure to herald the advent of many of these little birds. On their first arrival they may be seen wearily sitting about on the rocks of the seashore or hawking for flies in a spiritless manner on the beach. They do not stay long, but soon betake themselves to the south.

ALSEONAX LATIROSTRIS.

The Brown Flycatcher arrives about the same time as the Siberian, but examples continue to come in until October.

Brown Flycatchers were not observed on the seashore in the same way as the Siberian Flycatchers. These birds do not remain long; they almost all continue their journey south at once.

TERPSIPHONE INCII.

The Chinese Paradise Flycatcher occurs on migration, and was observed at North-East Promontory and at Wei Hai Wei early in September.

At Leu Kung Tao one of these birds flew into a sitting-room, apparently attracted by a light.

HIRUNDO GUTTURALIS.

The Common Swallow of the East is abundant about Wei Hai Wei, where it breeds under the eaves of houses like its Western representative. Although the Chinese regard these birds as lucky, they do not protect them so rigidly in Shantung further south, and there is no great difficulty in obtaining their eggs. In the last week of September Swallows begin to congregate on the roofs and telegraph-wires, and sometimes on the rocks by the sea-shore, previous to their southern migration. The great majority have departed by the first week in October, two months later than in Hong Kong.

The nests are similar to those of *Hirundo rustica*, and the eggs are laid, in Shantung, towards the end of May and in June; four or five eggs form the usual clutch.

Thirty eggs from Shantung average ·74 × ·52 inch, and vary in length from ·82 to ·70 inch and in width from ·56 to ·48 inch.

HIRUNDO STRIOLATA.

This Swallow is a very common bird about Wei Hai Wei, and, like *Hirundo gutturalis*, frequents native houses in the most familiar manner.

In some years this species seems to leave Shantung earlier than the Eastern Common Swallow, but perhaps, as a rule, it takes its departure a little later. It may be that the date depends, to a considerable extent, on the ability of the young to migrate, for as late as the first week in October, 1907, there were young in a nest at Leu Kung Tao, and that year this species was later than *Hirundo gutturalis* in leaving.

The well-known flask-shaped nests of these birds are placed under the eaves of native and other houses, and many are usurped by the quarrelsome Tree-Sparrows (*Passer montanus*), in precisely the same way that House-Sparrows so often take by force those of the House-Martins in England.

Like the other Swallows, this species congregates in large flocks prior to making its migratory journey to the south.

The eggs are pure white and are laid in June and July. Five eggs from Shi Tao average ·76 × ·55 inch, and vary from ·78 to ·75 in length and from ·75 to ·54 in width.

Chrysomitris spinus.

Siskins occur in September and October on migration.

At Shi Tao, in early October, a Siskin which had been caught in the lighthouse was seen in a cage. Many of these birds are captured by the native bird-catchers when they come in from the north.

Ligurinus sinicus.

The Chinese Greenfinch is probably resident about Wei Hai Wei in small numbers. Usually I saw these birds in small parties or in pairs, and they breed sparingly in scattered localities.

The white variety of the eggs of this bird found in Fokien was not met with about Wei Hai Wei, but the ground-colour of the eggs from Shantung is certainly less blue than that of those from South China.

The earliest date for eggs is April 27th and the latest May 29th. Eight eggs average ·70 × ·53 inch, and they vary from ·72 to ·68 in length and from ·57 to ·51 in width.

Eophona melanura.

These Hawfinches I saw only in cages, but I was informed that they are caught about Wei Hai Wei and at Chefoo.

It has to be borne in mind, however, that there is considerable traffic in cage-birds on the Chinese coast and that they may be transported for considerable distances in junks.

PASSER MONTANUS.

The Tree-Sparrow, of course, takes the place in China of *Passer domesticus* in Europe, and is just as parasitic, bold, and noisy, while it is altogether different in habits from the same species in the West.

These birds build in the native houses, and are particularly fond of turning the Mosque Swallows out of their elaborate nests, which they do not even trouble to re-line, as a rule.

In 1901, the Tree-Sparrows in Leu Kung Tao were afflicted with a disease, which attacked fledglings, many of which died after first becoming blind. Large numbers must have perished from this cause during the summer.

Several broods are got off in the season, and young birds, barely able to fly, were noticed in September. Most clutches are laid in May and June and contain, as a rule, three or four eggs.

Twenty-four eggs average ·76 × ·55 inch, and vary from ·80 to ·68 in length and from ·60 to ·53 in width.

EMBERIZA CHRYSOPHRYS.

This Bunting occurs plentifully during migration in the month of September. Several birds of this species came on board H.M.S. 'Waterwitch' whilst surveying in the Gulf of Pechili in the first half of September 1901.

EMBERIZA FUCATA.

The Grey-headed Bunting was observed at North-East Promontory on migration in September.

EMBERIZA PUSILLA.

A flock of Little Buntings was once observed on Leu Kung Tao in the first week of October.

EMBERIZA CIOIDES.

The Siberian Meadow-Bunting is the commonest breeding representative of the genus in the Wei Hai Wei district. Undoubtedly the majority are summer visitors, but it is just possible that some may remain through the winter.

This species arrives at Wei Hai Wei earlier in the year than the writer, probably some time in May, whilst by the end of September most of them have taken their departure for the south.

In the summer months the birds are always scattered over the countryside in pairs, and shew no tendency to become gregarious even at the autumn migration.

In habits this species seems to much resemble our Yellow Buntings (*E. citrinella*); the male has the same habit of sitting on the top of a small bush and repeating, *ad nauseam*, his plaintive little song, which, as Rickett very truly says, closely resembles that of our *Emberiza citrinella*, without the final note.

The breeding-season commences in May, and the nest is placed, in Wei Hai Wei, under a tuft of grass beneath a small rock or at the foot of a bush or little tree. The long grass which always clothes the graves in a Chinese cemetery is a favourite situation. As a rule, the nests are lined with horse-hair alone or with a mixture of horse-hair and fine grasses.

In Fokien Rickett and La Touche found this species nesting in small trees, a few feet from the ground, a situation which, so far as is known, it never selects in Shantung.

The eggs vary from three to six in number, but four or five form the usual clutch.

The earliest date for fresh eggs is May 13th and the latest June 8th, but the birds often sit much later than this, for on July 21th, 1907, a cock bird was noticed singing, in the manner which indicates a hen sitting somewhere in the vicinity, and, no doubt, Rickett is right in supposing this species to be double-brooded.

The eggs have been described by Mr. La Touche ('Ibis,' 1906, p. 633), but as they present considerable variation, the following remarks upon them may not be out of place:—

Almost all the eggs have a creamy ground-colour, inclining in some specimens to a purplish brown, but there occur a few in which the ground-colour is clear bluish white, and of such only three were obtained. The eggs of a clutch sometimes vary *inter se*, and I obtained one of three in which two are normal and one is of the bluish-white variety. The wreath of hair-like sepia-coloured markings mentioned by

Dresser in the 'Manual of Palæarctic Birds' is present in about half the specimens. In addition to the sepia-coloured hair-like markings, dark-coloured streaks occur on most eggs. Dark sepia-coloured spots of rounded shape, well defined in outline, occur also in many specimens. In nearly all eggs there are the yellowish blotches described by La Touche, but blotches of a reddish-brown and violet colour also occur in some specimens.

Eggs vary from ·80 to ·70 inch in length and from ·63 to ·57 in breadth. The average of forty-one eggs is ·76 × ·60 inch.

EMBERIZA PASSERINA.

This form of the Reed-Bunting was found on one occasion breeding at Shi Tao, by Mr. Schwilf.

The nest was in precisely the same situation as that of its ally in Europe, and the one egg obtained was precisely similar. The date of the taking of this nest was June 20th.

MELANOCORYPHA MONGOLICA.

It is doubtful whether the Calandra Lark should be included, as it was only observed in cages. The Chinese assert, however, that the specimens which they have caged are taken near Chefoo, and as many of the birds are very young this is possible. It is also possible that the birds are brought from further north or from inland, but it is significant that in South China this species is called the Shantung Lark.

ALAUDA ARVENSIS.

Skylarks are met with about Wei Hai Wei only on migration, during August and September, when they are plentiful enough. Whilst sheltering from a gale off Taku, in H.M.S. 'Waterwitch,' a good many Skylarks came on board and ably assisted in demolishing the blue-bottle flies: this was early in September.

GALERITA CRISTATA.

Crested Larks are common birds about Wei Hai Wei during the summer months; and probably some are resident. The usual form met with in Shantung is very sandy-coloured and desert-like, but those that come down on migration in September are often much darker.

These Larks never seem to breed down on the sandy flats, where the nests of *Calandrella pispoletta* are so abundant, but always in the fields and on the banks between them. Usually the birds are to be seen in small parties, but they are also found in pairs, and singly.

Eggs are laid from May 13th to July 1st, the majority in May, and three or four is the usual complement of a clutch: five are found occasionally. The eggs of this species taken in Shantung seem to fall into two well-marked types; in one there are fairly well-defined markings of green or brown on a greenish-white ground, and in the other there are small markings, thickly scattered on a bluish-white ground. In the first-named type the general impression is of a greenish, and in the second of a greyish-white colour.

Forty eggs from Shantung average ·86 × ·66 inch, and vary in length from ·94 to ·73 and in width from ·69 to ·59.

CALANDRELLA PISPOLETTA.

During the summer months Pallas's Desert-Lark abounds on the Shantung littoral. The sandy flats which in so many parts of the coast separate the hills and the cultivated land from the sea provide these little Larks with conditions admirably suited to all their breeding requirements. On the flats between Wei Hai Wei and Chefoo one may, with the assistance of the small Chinese boys, who are sent out to rake up grass, easily examine a hundred or more nests in the course of a day.

The nest of this species is of the flimsiest construction in most cases, and often does not even contain any proper lining. Frequently the bottom of the nest is formed by the sand alone, and sometimes it is nothing more than a horse-shoe-shaped mass of grass, the space between the ends being filled by a lump of sandy material or a stone. Some nests, on the other hand, are well sunk into the sand, and some are built up on the side of a small hillock and have quite good bases and grass or hair linings.

The first clutches of eggs have been taken about the middle of April, and as fresh eggs are still obtainable until the middle of June, there is little doubt that this species is double-brooded in Shantung. The usual clutch is four, rarely there are five, but not infrequently three.

The young have blackish down and an orange gape.

Mr. Dresser states, in the 'Manual of Palæarctic Birds,' that the song of this species *is said to be* of a high order. An indifferent and feeble imitation of that of the Skylark would perhaps better describe it.

This bird does not often soar, and still more rarely sings when so doing. Usually Pallas's Desert-Lark sings when upon the ground, and in the breeding-season the male may be seen running rapidly up and down and round about its mate, with wings and tail outstretched, and the feathers on the nape elevated, singing furiously.

The earliest date on which eggs were taken is April 15th and the latest June 17th.

The average of seventy-three eggs is ·77 × ·59 inch, and they vary from ·85 to ·70 in length and from ·62 to ·54 in width.

The eggs have been elsewhere described, but it may not be out of place to remark that they vary greatly in appearance, even in the same clutch. The majority are of a greenish-white ground-colour, generally profusely spotted and speckled with markings of brownish or yellowish, so that some bear a certain resemblance to those of the Sedge-Warbler.

In shape most eggs are blunt ovals. Specimens shewing a zone of markings at the junction of the middle and upper thirds are fairly common, but those with bold markings at considerable intervals are rare.

STURNUS POLTORATZSKYI.

A Starling, which appears to belong to this subspecies, occurred in small numbers at Wei Hai Wei.

PICA RUSTICA.

Magpies occur plentifully in and about Wei Hai Wei, as indeed they do almost everywhere in China. In the summer time family parties, of six to nine, are often to be met with, but in September flocks of as many as thirty individuals are to be seen. It is possible that some of the birds forming these large parties wander in from districts other than those in which the flocks are seen.

Probably nearly all the Magpies about Wei Hai Wei are resident in Shantung. The Chinese there regard the Magpie as a lucky bird, but although they will not readily kill one themselves, they do not object to a foreigner doing so, and they have no scruples about taking the eggs.

This bird builds, in Shantung, precisely the same kind of nest as it does in Europe, but the majority of eggs are laid in May. The earliest date for eggs is May 6th and the latest June 1st. The usual clutch is four or five, and more than seven have not been found.

As Magpies are not persecuted in China, they naturally become very tame, and nests are often to be met with in quite low trees.

The olive-green coloured eggs, so common at Hong Kong, were not met with at Wei Hai Wei, where they are of a bluish green. Twenty-four eggs from Shi Tao average 1·38 × ·95 inch, and vary in length from 1·46 to 1·22 and in width from 1·02 to ·92.

Cypselus pacificus.

The Pacific Swift is a very abundant species about Wei Hai Wei during the summer months. In habits these birds somewhat resemble *Cypselus apus*, but they are less crepuscular and are much more addicted to the tops of mountains, rocky islets, and other places far removed from human habitations.

Pacific Swifts may be seen at Leu Kung Tao on a summer evening, flying in very large numbers about the highest points of the island, hawking for prey, but without very much screaming.

The only breeding-place found was at White Rock, where a small colony was striving to maintain itself, in spite of the existence on the islet of innumerable hungry rats. The sites of many old nests were found with broken eggs and scattered feathers to tell a melancholy story of death and destruction wrought by the predatory rodents.

One new nest was observed on June 16th; it was a small affair of grass and seaweed, all glued together by some gelatinous material produced by the bird, and so placed in a cleft of the rock that the hen bird could only sit, so to speak, in a "fore and aft" position.

The latest date on which these birds were seen was September 23rd at North-East Promontory, by which time, however, nearly all had gone south.

Swinhoe obtained the eggs of this species at Chefoo.

CAPRIMULGUS JOTAKA.

This Goatsucker occurs on migration, and was noticed on many occasions at the end of August and in the beginning of September. When it first arrives it will sometimes hawk over the sand-flats in broad daylight and close to the sea-shore.

DENDROCOPUS CABANISI.

This Spotted Woodpecker was only met with about Wei Hai Wei on one occasion, on the mainland, towards Chefoo. This was on July 1st, and the only specimen obtained was a male of the year. Nesting-holes, presumably of this bird, were noticed in some large willow trees at the place where the bird was obtained.

HYPOPICUS POLYOPSIS.

This handsome little Woodpecker occurs about Wei Hai Wei at the end of August and the beginning of September, when on its southward migration. A specimen flew on board H.M.S. 'Waterwitch,' whilst surveying in the Gulf of Pechili to the north of Wei Hai Wei, on September 11th.

At the time of year specified above there oozes from the oak trees (*Quercus mongolicus*) resinous matter, which attracts numerous insects, and in the pursuit of these *Hypopicus polyopsis* becomes so engrossed that it can be obtained with very little trouble. All the birds were seen in pairs or in parties of three, and all those obtained were immature males.

The cry is a loud sharp "keek" frequently repeated and at once calling attention to the presence of the birds.

Alcedo bengalensis.

Though not very plentiful, Kingfishers are found on most of the larger streams about Wei Hai Wei. Two of these birds were observed busily fishing in the sea, at Itau Island, on September 8th.

Halcyon pileatus.

The Black-headed Kingfisher was only observed on one occasion in the neighbourhood of Wei Hai Wei, and that was at Itau Island on September 2nd. There is little doubt that the bird was on its journey south. The master of a merchant ship told the writer that, at about the same time, four or five of these Kingfishers came on board his ship between North-East Promontory and the mouth of the Yangtze.

Eurystomus orientalis.

The Broad-billed Roller is a fairly common bird about Wei Hai Wei, where it arrives in May, to leave again at the end of September. A considerable number remain to breed, but never, so far as is known, in old Magpies' nests, after their habit in Fokien. Usually the eggs are laid in a hole in a tree, but, according to the Chinese, sometimes in a cleft in the rocks. A considerable influx of migrants from Korea and further north takes place at the end of September.

The peculiar undulating and Woodpecker-like flight of this bird at once calls attention to it in the field.

Three eggs taken, one in June and two in May, average $1{\cdot}33 \times 1{\cdot}05$ inch.

Upupa epops.

The only Hoopoe obtained was shot on September 6th.

Swinhoe met with this species once during the summer at Chefoo. The lighthouse-keeper at North-East Promontory stated that Hoopoes were, later in the year, sometimes very numerous.

CUCULUS CANORUS.

Cuckoos are fairly numerous about Wei Hai Wei, and it is surprising never to find their eggs in the nests of *Calandrella pispoletta*. The only egg obtained, which may be safely assigned to this species, was found in a nest of *Emberiza cioides*, and bears a remarkable likeness to that of its host; it was taken on May 28th.

Cuckoos were seen in great numbers on migration at North-East Promontory early in September. Many of them were birds of the year.

ASIO ACCIPITRINUS.

The Short-eared Owl was only once met with, early in October, after a gale of wind, which may have driven it out of its usual course.

SCOPS STICTONOTUS.

This Scops-Owl was twice obtained at Shi Tao, on September 26th and October 2nd. These birds were undoubtedly on migration.

ATHENE BACTRIANA.

This Owl was obtained once, on September 26th, near Shi Tao.

BUBO MAXIMUS.

The Eagle-Owl is a resident in the hills near Wei Hai Wei, and young birds have been procured there early in May. The birds are not common, and they are stated to breed in very difficult places in the hills.

No eggs were obtained.

CIRCUS SPILONOTUS.

At North-East Promontory, in September, these Harriers were very numerous on certain days, hawking over the marshy and grassy places. Almost all seen were females, and they did not remain in the locality for more than about a day.

BUTEO VULGARIS.

Buzzards were only observed in the hills between Wei Hai Wei and White Rock, and only two pairs were seen.

As the time was early in June, there is every likelihood that they breed in that part of Shantung.

ACCIPITER NISUS.

Swinhoe noticed at Chefoo, nearly forty years ago, that Sparrow-Hawks were often in the possession of the Chinese, who used them for hawking small birds. He observed that this bird did not occur in the vicinity, or, at any rate, did not breed there.

Young Sparrow-Hawks were occasionally seen at Wei Hai Wei, and as early as the end of May these birds either came from inland, possibly not from very far away, or had been brought in junks from some neighbouring part of the coast. When it is remembered how extraordinarily localised species often are, and nowhere more so than in China, the former assumption appears the more likely.

MILVUS MELANOTUS.

The Black-eared Kite, which is only fairly common about Wei Hai Wei in the spring and summer, at the end of August suddenly becomes very numerous, on account of the arrival of many migrants from the north.

So far as the writer is aware, in Shantung, this species nests in rocks, and not in trees, as it usually does in the south of China. The eggs are laid in the first half of April, and although the birds do not actively resent their removal from the nest, they fly round with a peculiar mewing cry. When, however, they have young they may fiercely attack an intending marauder.

The average of nine eggs from Shi Tao, Shantung, $= 2{\cdot}28 \times 1{\cdot}65$ inches. The greatest length is 2·46 and the least 2·2 ; in width they vary from 1·78 to 1·87.

FALCO PEREGRINUS.

The Peregrine Falcon undoubtedly occurs as a resident about Wei Hai Wei, and is known by the Chinese to breed at some distance inland. Swinhoe knew the bird to breed about Chefoo in his time.

The Chinese esteem this species highly for hawking, and with it kill a good deal of game in certain places.

About the last week of September, and particularly at North-East Promontory, Peregrine Falcons occur in very large numbers and a dozen may be seen at one time on the wing there. They find abundant quarry among the other migrants and seem particularly fond of ducks.

These Peregrines are not at all shy, and at Shi Tao, in October, one settled in the rigging of H.M.S. 'Waterwitch,' whence it made repeated dashes at the Gulls flying round the ship.

FALCO SUBBUTEO.

The Hobby was only once obtained—near the North-East Promontory, on September 23rd. This bird was evidently on migration: its stomach was full of the elytra and other chitinous parts of various Coleoptera. It was an adult female, and in beautiful condition.

FALCO AMURENSIS.

The Eastern Red-footed Falcon was, during the summer, by far the commonest Hawk met with in the Shantung Peninsula.

This species loves the sandy wastes which border the Gulf of Pechili and the Yellow Sea in so many places, and there it finds abundance of the grasshoppers and sand-lizards on which it chiefly preys, the birds' crops often containing immense quantities.

This bird is very Kestrel-like in its habits, and hovers when about to make a stoop in exactly the same way as *Falco tinnunculus*, while its cry is very similar.

The Chinese, who are, about Wei Hai Wei, great sportsmen, not infrequently train the birds for hawking, and fly them at Sparrows and other small game.

The nest of this species is always, apparently, placed in a tree and is never, like that of the Kestrel, situated in rocks. There is no doubt, however, that in the majority of cases this bird makes use of a deserted Magpie's nest in which to lay its eggs, and, indeed, the Chinese assert that it always does so.

Some nests were observed which appeared to have been built by the birds themselves, perhaps on a foundation laid by a Magpie: they were made of rather small sticks, and lined with grass.

This species, as Abbé David has pointed out, is very tame and confiding, and frequently breeds close to villages or even inside the walls of a city. Several nests are sometimes discovered in close proximity.

This species may breed when quite immature, and a pair, in plumage which indicated their youth, was obtained from a nest containing eggs on June 26th. It is a late breeder, and, as a rule, eggs are not laid until the last week of June, or the first week of July.

Four is the most usual number of eggs in a clutch, three is not uncommon, but five is rare. These eggs are of two types, one brownish or sepia-coloured and the other reddish. Most specimens are marked thickly with reddish spots on a yellowish-white ground, and a few are richly and heavily blotched with large cloudy markings. Some eggs are quite light in colour, being faintly marked with small brown spots on a yellowish ground, whilst others, again, are entirely yellowish-white, with scanty and scattered spots of sepia-colour.

Forty eggs from Shantung average 1·41 × 1·14, and vary in length from 1·47 to 1·31 and in width from 1·19 to 1·08.

FALCO TINNUNCULUS.

The Kestrel is fairly common as a resident in and about Wei Hai Wei, each pair of birds appropriating some range of cliffs or a bold headland to themselves. The numbers of this species, like those of so many others, are vastly augmented in August and September by the arrival of numerous migrants from further north.

So far as is known, this species, unlike the nearly allied *Falco amurensis,* never nests in a tree at Wei Hai Wei; but invariably in some cleft of the cliffs or rocks by the sea-shore.

FALCO SATURATUS.

This dark-hued Kestrel may perhaps breed in some parts of Shantung, as it does apparently further south, but it was seen about Wei Hai Wei only as an autumn migrant. The earliest arrivals appear at the end of August, and some are still coming from the north at the end of September.

Generally the birds are in pairs and are wilder than Common Kestrels.

PANDION HALIAËTUS.

An Osprey was once observed at Shi Tao early in October.

PHALACROCORAX CARBO.

Cormorants are fairly abundant on the coast about Wei Hai Wei, and there can be no doubt that they breed in numbers in some place yet to be found.

Early in June a Cormorant, accompanied by two young, was seen on White Rock.

PHALACROCORAX PELAGICUS.

The Pelagic Shag is a far more abundant bird about Wei Hai Wei than the preceding species, and, like it, is apparently a resident in this part of China, but, at the same time, it must be admitted that nests, eggs, and young have not yet been observed.

ARDEA CINEREA.

Herons were fairly numerous in August at a large fresh-water lagoon on the coast opposite Kyming Island. They were very wild and no specimens were obtainable. At Shi Tao only single birds were noticed, and they were scarce.

No information as to their breeding was obtained.

ARDEA ALBA.

Great White Egrets were plentiful on the same lagoon as the Herons, but, like them, sparingly noticed elsewhere. These birds were also very wild.

ARDETTA SINENSIS.

The Chinese Little Bittern was noticed on migration, in small numbers, at North-East Promontory during the first half of September.

ANSER FERUS.

A few wild Geese began to make their appearance at Shi Tao during the first week of October, but they did not stay there, and strings of birds flying at a considerable height could be seen making straight out to sea in the direction of the Yangtze. Later in the year these Geese, and doubtless several other species, are abundant. The Chinese inspire them with no fear and can get within twenty yards of them as they feed in the fields, but this is quite impossible for a European.

The natives have a curious Goose-trap, used in hard weather, which may be worth mentioning. A bait is attached to a thin strong piece of twine and the latter to a ring, which is hidden in the snow or under the soil. The bird takes the bait and finds itself fastened to the ring, which it attempts to remove with its foot. The foot gets pushed through the ring and the bird, tied head and foot, is easily captured. The writer never personally saw a Goose captured in this manner, but there is no reason to doubt the accuracy of his informant.

BRANTA NIGRICANS.

These Brent Geese were first noticed on the 14th of September, when a flock of five was seen. Others followed, but, like the Grey Lag Goose, all seemed very shortly to take their departure for the south. These Geese were only seen near Kyming Island and at North-East Promontory.

ANAS BOSCAS.

Mallards occur about Wei Hai Wei as early as the first week in August, but are not numerous until about the middle of September. About North-East Promontory they were very abundant on some days.

ANAS ZONORHYNCHA.

This Duck may be resident on some of the larger lagoons of fresh water, but it was not observed before the first week in August.

QUERQUEDULA CIRCIA.

The Garganey was observed only at the North-East Promontory during the month of September.

NETTION CRECCA.

Teal were very abundant on the freshwater lagoons on North-East Promontory during the month of September.

MARECA PENELOPE.

Wigeon become plentiful about Wei Hai Wei in August, but most of them keep out at sea, and only a few take to the freshwater lagoons.

ÆTHYIA MARILA.

Scaup Ducks occurred in immense flocks at the end of August, and were especially abundant in the vicinity of Kyming Island. A few of these Ducks began to arrive quite early in August and some took to the freshwater lagoons.

COLUMBA RUPESTRIS.

The Eastern Rock-Pigeon is a very common bird on the rocky portions of the coast near Wei Hai Wei, and is there a resident. Although this species is supposed chiefly to frequent inland hills and cliffs it certainly, in Shantung, is much more abundant on the coast. Large numbers of these birds descend to feed upon the bean-fields in the autumn.

Sometimes this species nests on an inland cliff, but about Wei Hai Wei a cliff on the sea-coast is usually selected. The eggs are laid from April until July, and the nests are made of small sticks and placed in a crevice of the rock.

Eleven eggs average 1·51 × 1·12; they vary in length from 1·63 to 1·44 and in width from 1·17 to 1·08.

COLUMBA IANTHINA.

The Black Pigeon is a summer visitor to the neighbourhood of Wei Hai Wei, and is not common there. The birds arrive in May and leave again in October.

This species breeds from May until July, and the nest is placed in a tree and closely resembles that of *Turtur orientalis*.

Three eggs measure respectively 1·36 × 1·04, 1·39 × 1·04, and 1·32 × 1·04.

TURTUR ORIENTALIS.

The Eastern Turtle-Dove is a fairly common breeding species about Wei Hai Wei, but in the month of September its numbers are largely augmented by migrants from the north. As early as the first week in September some of these birds were observed crossing the Gulf of Pechili from Manchuria on their southward journey, but many were noticed as arriving about the end of that month at North-East Promontory. In the last-named locality the birds did not remain, but rapidly moved on to fresh places. This species occurs in winter as far south, at least, as Hong Kong. These birds are usually met with in scattered pairs during the summer months, but in the autumn small parties are the rule, and large flocks were not at any time observed.

The nest is very like that of the Common Turtle-Dove of Europe, and is placed in a tree at an elevation of from twelve to eighteen feet.

The eggs, generally bluntly oval in shape, are, of course, white, and as a rule two in number, though sometimes only one is incubated. The earliest date for eggs is May 20th and the latest August 24th, the majority are laid in June.

There is little doubt that this species is double-brooded.

TURTUR HUMILIS.

The Chinese Red Dove occurs somewhat rarely about Wei Hai Wei, and is said to remain throughout the winter. It breeds in similar situations to *Turtur orientalis*, and lays, as a rule, two eggs. The earliest date for eggs is May 15th and the latest August 24th.

Five specimens vary in length from 1·14 to 1·03 and in width from ·86 to ·82.

PHASIANUS TORQUATUS.

There was a locality, about twelve miles from Shi Tao, where the Chinese Pheasant was at one time resident and fairly abundant. The Chinese, however, took to beating the birds out of cover at all seasons, and then flying Peregrine Falcons at them, by which means they have effectually wiped them out.

CACCABIS CHUKAR.

The Chukar Partridge occurs very sparingly in the hills about Wei Hai Wei, but is probably a resident. No doubt the natives trap it to such an extent that it is almost exterminated. I only once met with it, on September the 14th, 1901, when about ten or a dozen were observed together at Mahto.

Swinhoe met with this species at Chefoo, and it occurs also about Shi Tao, but somewhat rarely.

COTURNIX COMMUNIS.

Quails occur about Wei Hai Wei only on passage, and probably pass northward fairly early in the year. About the third or fourth week in September they began to put in an appearance on the return journey, but were never noticed in any numbers, and usually in pairs or two or three at a time. At Shi Tao these birds were found well on into October.

At Chefoo Swinhoe obtained from native bird-catchers examples of the local race known as *Coturnix japonicus*, to which most of the Quails occurring on migration probably belong.

TURNIX BLANFORDI.

Blanford's Hemipode is a common summer visitor to the Shantung Peninsula, and is known to the Chinese as the Yellow Quail.

Probably most of the birds arrive in May, and a large number remain to breed. In the autumn the ranks of this species are largely augmented by the incursion of migrants from more northerly breeding-stations. The first arrivals appear as early as the beginning of September, and a specimen killed by a Peregrine was observed on the seashore on the 3rd of that month.

The nest, in Shantung, appears to be always made in a corn-field, and it is, therefore, only when the sickle is put to the crop that the nest is discovered.

The earliest date for eggs is June 10th and the latest

July 9th, but as the finding of the nest is governed by the cutting of the corn, these dates may not be a true index to the time of nidification.

The nest is a mere pad of grass on the ground, among the corn-stalks, and whether it ever has a hood, like that of its ally *Turnix pugnax*, is doubtful. The full clutch of eggs seems to be invariably four.

The eggs have been described by the present writer in 'The Ibis' for 1908 (p. 457), and closely resemble those of *Turnix pugnax*. The eggs described by Mr. La Touche in 'The Ibis' (1907, p. 17) were probably of a variety somewhat rare in Shantung, but which does occur there.

During the breeding-season this species is very shy and is flushed with difficulty, but in October it gets up readily from under the feet and flies straight away from its disturber, to pitch again after twenty-five to fifty yards of flight. Mr. Stuart Baker informed the writer that it breeds on the frontier of China and Burma, and it is known to occur during the summer in Manchuria, so that its breeding-range is very extensive.

A young bird was seen in a cage in the middle of August, so that possibly a second brood is sometimes got off.

Fifty-four eggs average 1·03 × ·80, and vary in length from 1·06 to ·95 and in width from ·88 to ·74.

PORZANA PUSILLA.

This Crake was only met with on one occasion, near North-East Promontory, in September 1902.

GALLINULA CHLOROPUS.

The Moorhen was only met with in one locality, a large, shallow, freshwater lagoon, fringed with abundant reeds and situated close to the sea-shore, almost opposite Kyming Island. At this place it was very numerous and, it is fairly certain, had bred there in plenty. The time was early in August, and most of the birds seemed to be paired. No nests or young birds were seen at this place.

GALLICREX CINEREUS.

The Indian Watercock is a common breeding species about Shi Tao, where it does not arrive until June, and leaves again in September. Swinhoe met with the bird at Chefoo in the summer, and surmised that it bred there: he states that the local Chinese name is "Hung Kwan," or Red-Cap; but at Shi Tao it is known by the name of "Pam-Pam," from the characteristic cry, which is heard especially in the evening and first part of the night.

It is a late breeder, no doubt because the summer is not sufficiently advanced for purposes of nidification in a subtropical and tropical species until the month of July, when most eggs are laid. The earliest date for fresh eggs was July 8th and the latest August 6th.

The nest is always made among rank grass and reeds in damp and marshy places, and is, of course, composed of grasses and dried water-plants below and lined with finer kinds.

The eggs vary from four to seven in number, but most nests contain six. They are very handsome, being of a very yellowish cream-colour, thickly streaked and with varying shades of red and red-brown. One clutch of six is of a whitish ground-colour, rather thinly streaked with reddish-brown, and spotted with shell-markings of a grey colour. In all clutches of six which were seen, one egg is of a much paler colour than the others.

Fleet-Surgeon J. Stenhouse, R.N., found this bird breeding up in a tree in Fokien Province; it never makes use of such a nesting-site in Shantung, so far as is known.

It probably breeds still farther north, for Commander H. Lynes has met with it in Corea.

The eggs vary in length from 1·74 to 1·55 inches and in breadth from 1·27 to 1·11: the average of forty-one eggs is 1·64 by 1·20.

CHARADRIUS DOMINICUS.

The Eastern Golden Plover was met with on several occasions on its way south from its far northern breeding-grounds. In October 1901, on several successive days, large flights of these birds came to Shi Tao, where they established themselves on the mud-flats, and where, contrary to their usual custom, they proved, at any rate at first, uncommonly tame. They did not remain long, however, on the mud; but took to the grass, where they at once became as wary as they are elsewhere.

Near Kyming Island, on the sandy grassy flats near the coast, for several days a flock of these birds was seen, but they were very wild and never came within shot. This was in the second week of August, so that their period for autumn migration is considerably extended.

SQUATAROLA HELVETICA.

Grey Plovers were found in some numbers at Shi Tao during the first half of October. No large flocks were seen, but parties of three or four birds were frequently met with on the mud-flats, and were decidedly tame. It was thought that the main body of migrants had either passed to the south or had yet to come.

Many specimens still retained a great deal of black on the breast.

ÆGIALITIS CANTIANA.

The Kentish Plover is one of the commonest breeding-birds on the sandy wastes which border the Yellow Sea and the Gulf of Pechili in so many parts of Shantung Promontory, and most of the observations on this species were made on the flats between Wei Hai Wei and Chefoo.

On the flat tracks of sand which a retreating sea leaves behind it, these birds breed in thousands and gave me ample opportunities of studying their habits, for they are very tame. This form of the Kentish Plover is considered to be subspecifically distinct from that which occurs in Western Europe; but it does not seem to Mr. Dresser to be separable. Probably this bird breeds in suitable localities all down the coast of China, for La Touche reports eggs from as far south as Swatow; it was observed about Hong Kong at the end of May.

During September, so far as is known, all birds of this species leave the neighbourhood of Wei Hai Wei for the south. In habits and actions the Kentish Plover in North-East China does not appear to differ in any way from the same bird in Europe.

The number of bogus nests or scratches is astonishing, and to each of them leads four tracks of the birds' feet, in the form of a cross, of which the intersection of the two cross-pieces is formed by the scraped hollow. Of all the nests observed not one was on shingle, all were on the sand, but certainly shingle is not plentiful. Nearly all the nests have small pieces of shell round and in them.

Frequently eggs of the Kentish Plover were found almost buried in the sand, but whether this was due to action on the part of the birds, or whether the sand had simply blown into this position it was impossible to make out. If the eggs are purposely covered by the birds, which seems probable, it may be with the double object of concealing them from view and preserving them from the scorching rays of a hot sun and the desiccating action of the very dry wind.

All the clutches observed were of three eggs except one, which contained five, and were thought to be the produce of one hen. It is of interest in this connection to observe that Ticehurst, 'History of the Birds of Kent,' p. 424, mentions clutches of five eggs and gives his reasons for believing them to be the produce of single pairs.

The Kentish Plovers have dark legs, and none were seen with light-coloured ones, but when first hatched, and for some weeks afterwards, the young shew the dark colour only on the foot and the back of the tarsus.

The earliest record of fresh eggs, a full clutch, was April 28th, and on June 18th many nests contained one and two fresh eggs only, so that it is possible that this species is sometimes double-brooded about Wei Hai Wei. The great majority of birds begin to breed, however, during the first week of June, and as they are a good deal robbed by small Chinese boys, this may account for some being later than others.

The eggs vary from 1·35 to 1·17 in length and from ·95 to ·87 in breadth, and the average of seventy-six eggs is 1·27 × ·92.

ÆGIALITIS CURONICA.

The Lesser Ringed Plover is not uncommon in Shantung, but on the seaboard it is much scarcer and more local than the Kentish Plover. As in Europe, this species shews a preference for the neighbourhood of fresh water, and it does not often nest close to the sea. The birds are found in scattered pairs or in small communities. The breeding-season about Wei Hai Wei may be said to extend from about May 20th to June 10th.

Twenty eggs from Shantung average 1·14 × ·85, and vary in length from 1·20 to 1·08 and in width from ·88 to ·84.

STREPSILAS INTERPRES.

Turnstones were observed on their northward journey at Leu Kung Tao at the end of May, and in greater numbers on their southern migration early in September, at a point on the coast opposite Kyming Island.

PHALAROPUS HYPERBOREUS.

The only occasion on which Red-necked Phalaropes were seen about Wei Hai Wei was on August 14th, 1902, when a flock of six settled on a small pool of fresh water near Kyming Island. These birds had still a great deal of red on their necks.

SCOLOPAX RUSTICULA.

Woodcocks occur both going north in spring and coming back in autumn. At the time of the spring-passage they are, as a rule, very fat and lazy and shew poor sport, but in October, on the southern passage, they are no easier to shoot than elsewhere.

GALLINAGO CŒLESTIS.

The Common Snipe occurs in large numbers about Wei Hai Wei on the spring and autumn migrations. The Snipe come in as early as the first week in August, and continue to do so in flocks of various sizes, until the latter part of

September, when practically all have passed. A Snipe shot in the second week of October at Shi Tao was in very poor condition. The numbers of Snipe appear to vary greatly in different years, but it was noticed that when the wind and weather are not propitious for a further journey to the south, they often remain in the vicinity for some days. On the other hand, at North-East Promontory it was noticed that they remained for two days when all the conditions were in favour of their continuing their journey.

At North-East Promontory, September 1902, in very stormy weather several parties of Snipe were observed coming in from the sea, obviously having crossed from the neighbourhood of Port Arthur; they were in flocks of from five to ten birds, flying fairly high up, and uttering their characteristic cry.

TRINGA ALPINA.

Dunlins occurred in all suitable places near Wei Hai Wei as early as the middle of August, while in September and early October they became exceedingly numerous.

There seemed to be two forms of this species which were obtained at Shi Tao, one of which was much larger than the other. The larger form kept separate from the smaller, but flocks of both were to be seen on the same mud-flat. It is curious to note, however, that on the 9th of June, to the west of Wei Hai Wei, a Dunlin was obtained in full breeding-plumage, its foot being in a snare attached to a small withy, which it had pulled up when it escaped. As the Chinese set these snares near the nests of birds, there is every likelihood that this Dunlin was breeding in the neighbourhood. Wei Hai Wei is not further south than Southern Spain, where the Dunlin is known to breed. It is possible that the larger form of Dunlin mentioned above may be *Tringa americana*.

TRINGA MINUTA.

The Little Stint occurs plentifully on the coast of Shantung from early in August onwards, generally in small flocks of from twenty to thirty birds.

TRINGA RUFICOLLIS.

This Red-breasted Stint is the commonest of the Stints to be met with about Wei Hai Wei, where it occurs in the same places and at the same times as the other species of the genus.

TRINGA SUBMINUTA.

Middendorff's Stint is plentiful in small flocks on the sand and mud-flats at Shi Tao and near Kyming in August and September.

CALIDRIS ARENARIA.

What applies to the Stints applies also to the Sanderling, except that the latter is less abundant.

TOTANUS GLOTTIS.

At the end of September and early in October Greenshanks were met with in considerable numbers at Shi Tao.

TOTANUS OCHROPUS.

Green Sandpipers occurred in large flocks near Kyming and near North-East Promontory late in August and early in September.

TOTANUS GLAREOLA.

Greenshanks were very numerous at Shi Tao in October 1901, but were not observed elsewhere. Their numbers increased markedly after a wind from the north or north-east.

TOTANUS HYPOLEUCUS.

Sandpipers were noticed on one occasion only at the large freshwater lagoon opposite Kyming Island on August 14th, 1902.

TOTANUS INCANUS.

This Tattler occurred at Shi Tao in October. Fleet-Surgeon J. H. Stenhouse met with this species at Chefoo.

LIMOSA BAUERI.

Bar-tailed Godwits were first noticed on August 6th, but about the middle of the month they were abundant on the flats opposite Kyming Island. These flocks did not remain long, but others continued to come in until about the middle of September.

LIMOSA BELGICA.

Black-tailed Godwits were much scarcer than Bar-tailed, and unlike them were not seen in flocks of any size; many individuals seemed to be solitary.

NUMENIUS VARIEGATUS.

This species occurred on its northward migration in considerable numbers about Wei Hai Wei at the end of May, and a few were observed returning in August. Some individuals appeared to be still frequenting the mud-flats between White Rock and Wei Hai Wei as late as June 18th, when they were in company with Curlews.

NUMENIUS ARQUATA.

Curlews were seen until after the middle of June near Wei Hai Wei. Their behaviour was peculiar in 1902, for in a letter from Mr. F. W. Styan it is stated that on July 9th at one place on the Yangtze they were heard going north, and at another place passing to the south. In August and September these birds are fairly common on the flats opposite to Kyming Island.

STERNA MELANAUCHEN.

Terns referred to this species were noticed in large numbers near Taku, and in September they began to put in an appearance in the neighbourhood of Kyming Island.

STERNA CASPIA.

The Caspian Tern was met with only once, at a salt-water lagoon which opens into the sea opposite Kyming Island, on September 14th.

LARUS CANUS.

Common Gulls were first noticed in September, near North-East Promontory, in heavy weather.

STERNA SINENSIS.

This Chinese Little Tern is a very common summer visitor to the coast about Wei Hai Wei, where the dry sandy flats, which attract Pallas's Desert-Lark and the Kentish Plover, afford it also every facility for breeding purposes. In its habits this species closely resembles its near ally, *Sterna minuta*; it fishes in precisely the same manner and mobs intruding Hawks and Gulls with the same reckless courage and unceasing clamour, but in Shantung it was never observed to lay its two or three eggs on shingle. Invariably, the nesting-site was a small hollow in the sand, and this, indeed, it was thought, was made by the sitting bird, for when eggs were found quite fresh the depression was not to be seen.

Two eggs form the usual clutch and three are unusual. They closely resemble those of *Sterna minuta*, but dark brownish-coloured specimens are more common than among those of that species. The earliest date on which eggs were found was May 23rd and the latest June 13th. All the birds seemed to have taken their departure to the south early in September.

Forty-two eggs of this species from Shantung average 1·25 × ·94 inch, and vary in length from 1·35 to 1·16 and in breadth from 1·02 to ·88.

LARUS CRASSIROSTRIS.

The Bar-tailed Gull is a very common bird in the vicinity of Wei Hai Wei, and has, so far as is known, the distinction of being the only species of the genus which breeds in that part of China. It is probably subject to considerable seasonal movements, for in very cold and rough winter weather specimens not uncommonly occur as far south as Hong Kong.

This bird in its habits closely resembles *Larus canus*, and was found to be very tame and confiding, resting on the water close to the ship. The only breeding-site near Wei Hai Wei which this bird habitually uses is Alceste Island, which is mentioned by Swinhoe in his article on the birds of Chefoo ('Ibis,' 1874, p. 421). Swinhoe's informants were, however, very late in the season in exploring this islet, and almost all the nests at the time of their visit contained young birds; they stated that no nest held more than two eggs or young.

On May 15th thirteen fresh eggs of this species were obtained on Alceste Island, and on July 20th a couple more were taken. The nests were all placed in a small cliff which faces the mainland of North-East Promontory; there were no nests on the grassy top of the island nor on any of the surrounding islets. The nests were not very bulky, the bases being of dried seaweed and coarse herbage and the linings of fine grass. Some nests contained two eggs and others three.

In colour these specimens varied from a light brownish-green to a dark brown stone-colour, and the markings were of dark brown, grey, and slate.

Fifteen eggs average 2·59 × 1·55 inches; the length varied from 2·55 to 2·30 and the breadth from 1·61 to 1·77 inch.

Larus vegæ.

These Herring-Gulls were first seen on August 14th, and by the end of that month a few were about Wei Hai Wei Harbour. By the middle of September they were abundant, and at the end of the month very numerous. The majority were immature, but a considerable minority were still in adult plumage. It is of interest to observe that *Larus cachinnans* was not met with at Wei Hai Wei, but it is the only Herring-Gull which occurs in full plumage at Hongkong, where adults of *Larus vegæ* are never seen. Swinhoe met with this species at Chefoo as early as July.

Larus glaucus.

Glaucous Gulls were met with on several occasions at Shi Tao and about North-East Promontory in September and October, and usually in stormy weather.

PODICIPES FLUVIATILIS.

Little Grebes were not abundant on the lagoons of fresh water which occur near Shi Tao and the North-East Promontory. These birds breed rather late, as one fresh egg was obtained on July 20th, and on August 28th a young bird not very long hatched.

XXVIII.—*On the Birds collected by Mr. Claude H. B. Grant at various Localities in South Africa.*—Part III. By W. L. SCLATER, M.A., F.Z.S., M.B.O.U. *With Field-Notes* by the Collector.

[Continued from above, p. 437.]

THE numbers in front of the names of the Birds are those of the 'Check-list of South-African Birds,' published by me in 1905 (Ann. S. Afr. Mus. iii. pp. 303-387), which is founded upon the four volumes of the 'Birds of South Africa' by myself and the late Dr. Stark.

In order to save space the following contractions are used :—

CC. = Cape Colony.
Tv. = Transvaal.
N. = Natal.
P. = Portuguese East Africa.
Z. = Zululand.

382. UPUPA AFRICANA.

Tv. Woodbush, May, June (2); Legogot, May (1); **P.** Coguno, Aug. (2); Beira, Dec. (1).

[The African Hoopoe has been noted from the Cape Peninsula (March 1903), the Eastern and North-Eastern Transvaal, and the Inhambane and Beira districts of Portuguese East Africa. It appears to be a local migrant to a certain extent—as, for instance, at the Woodbush it was only observed in the winter, none being met with in the summer season; and at the Cape I have only seen it in the month mentioned, although I was there in both February and March and again in October. It is usually seen in pairs or threes, and inhabits more or less bushy country; it feeds largely on insects, for which it is observed searching in the trees and shrubs as well as on the ground. The cry is clear, somewhat loud, and generally of two notes; the flight is slow and jerky, the white on the wings and tail shewing conspicuously. It is rather a wary bird, and cannot always be approached within shot.

The soft parts of the adult are:—Irides hazel; bill, legs and toes blackish.]

383. IRRISOR VIRIDIS.

CC. Knysna, Dec., Jan. (8).

["Kakelaar" of the Colonists.

I have notes of this species from the Knysna only. It is always seen in small parties of about half a dozen individuals, and spends its time searching the trunks and larger limbs of the trees for insects and grubs. It can often be seen hanging head downwards on the under side of the branches examining the interstices of the bark. It has a loud clattering cry of many syllables rapidly repeated, accompanied by a see-saw movement of the body, the head being well thrown back each time, and likewise the tail. I have on several occasions seen the birds when calling face one another on a horizontal branch, their continual bowing to each other being very comical. The flight is undulating and never long sustained, the tail being widely spread, shewing clearly the white spots on it and on the wings. The species will often pitch on the side of the trunk of a tree after the manner of a Woodpecker.

The soft parts of the adult are:—Irides dark brown; bill, legs and toes coral-red.

In the young:—Irides much darker brown; bill black; legs and toes pink-brown.]

383 *a*. IRRISOR ERYTHRORHYNCHUS.

Tv. Klein Letaba, July, Aug., Sept. (5); Legogot, May (1); Coguno, July, Aug. (5); Tambarara, April (1); Tete, Sept. (1).

This Kakelaar has been noted in the Eastern and

North-Eastern Transvaal and the Inhambane, Beira, Gorongoza, and Tete districts of Portuguese East Africa. In cry, flight, and habits it cannot be distinguished from *I. viridis*, and, like that species, inhabits only forest or well-timbered country. I have never succeeded in finding the nest, although I have chopped out holes in trees where I have seen birds enter or emerge. The soft parts are similar to those of *I. viridis*.

384. RHINOPOMASTES CYANOMELAS.

Tv. Woodbush, May (1).

RHINOPOMASTES CYANOMELAS SCHALOWI.

Reichenow, Vög. Afr. ii. p. 347.

P. Coguno, Aug. (3); Beira, Dec. (1); Tete, Aug. (1).

The birds from Portuguese East Africa should be referred to Schalow's Scimitar-bill *, distinguished by its longer tail with much larger white spots. This subspecies was first detected in South Africa by Swynnerton ('Ibis,' 1908, p. 392). There are several other examples in the British Museum, viz., from the Makalaka country (*Bradshaw*), Hunyani River (*Clark*), and Fort Chiquaqua (*Sowerby*), all in Rhodesia, referable to this form. It is not mentioned in Gunning and Haagner's recently published 'Check-list of South-African Birds.'

[Only in the Inhambane, Beira, Gorongoza, and Tete districts of Portuguese East Africa have I noted this species. It was not common anywhere except in the Inhambane district, where a good many were noticed. It is always in pairs, and can often be seen examining the topmost branches of tall trees, never remaining long, and continually moving on from tree to tree.

It has a single clear loud cry, like a sharp whistle, which is apparently the call-note. It is very wary, and is not easily obtained. I could discover nothing of its breeding-habits.

The soft parts are:—Irides deep brown; bill, legs and toes black.]

* *Rhinopomastus schalowi* Neumann, J. f. Orn. 1900, p. 221 [Muanza, German E. Afr.].

387. CYPSELUS BARBATUS.

CC. Plettenberg Bay, Feb. 20 (1); **Tv.** Wakkerstroom, Apl. 7 (1); Woodbush Hills, Nov. 20 (1).

These are undoubtedly individuals of the resident South-African race.

[I have only noted this Swift in the summer season, and I have always observed it in flocks, generally hawking so high that it was impossible to obtain specimens. Curiously enough, I have never seen this species breeding, and could learn nothing from the natives respecting it.

The soft parts are:—Irides almost black; bill and toes black.]

388. CYPSELUS CAFFER.

CC. Plettenberg Bay, Feb. 20 (1); **Tv.** Wakkerstroom, Mch. 21 (2); Pietersburg, Feb. 25 (1).

[This Swift is migratory, and I have noted it at most localities visited in the summer season from about September to April. It is often seen in small parties of about half a dozen, and when the birds chase each other the flight is marvellously rapid. They build generally under the verandas of private dwellings, and most people will not have them disturbed. The cry is a "screech," continually uttered when chasing each other.

The soft parts are:—Irides dark brown; bill and toes black.]

CHÆTURA BOEHMI.

Chætura anchietæ C. Grant, Bull. B. O. C. xxi. 1908, p. 66.

P. Tete, Aug. 20 (1).

This little Spine-tail agrees in every respect with a series of specimens collected by Dr. Ansorge at Cassualalla and N'dalla Tando, in North Angola, and all should doubtless be referred to *C. anchietæ* (Sousa, J. Lisboa, xvi. 1887, pp. 93, 105). Reichenow (Vög. Afr. ii. p. 388) makes *C. anchietæ* a synonym of *C. böhmi* (Schalow, Orn. Centralb. 1882, p. 183) from Kakoma, in German East Africa. I have seen no examples from East Africa, but so far as the description goes there is no reason to doubt Reichenow's identification.

The Angola birds have a spot of white on the lores, which, however, is often partially or wholly concealed by the stiff black tips of the feathers around; this is not noticed in the descriptions of *C. anchietæ*, but is probably present, as it is in the Tete bird.

Sheppard (Journ. S. A. O. U. v. 1909, p. 37) obtained three examples of a Spine-tail, which he identified as *C. böhmi*, near Beira, and Wilde (Gunning and Haagner, 'Check-list of South-African Birds,' p. 78) got others at Sesheke on the Upper Zambesi; the bird is therefore probably not uncommon along the Zambesi Valley, and makes an addition to the avifauna of South Africa.

[I have only seen this Swift at one locality, and that was at the junction of the Mazoe and Luenya Rivers, some twenty or twenty-five miles south of Tete; it was probably passing there on migration, as about a dozen were seen for a few days only, which were hawking over the water in company with *Cypselus caffer* and *Hirundo smithi*. The flight is peculiar owing to the short tail, which compels the bird to be continually using the wings, especially when turning. It is apparently unable to turn with the graceful movement of the other Swifts and Swallows. The cry was not unlike that of *H. smithi*, and not the screech of the Swifts. Unfortunately, after I shot the specimen that I brought home, the others became wary and I could not secure any more.

The soft parts are:—Irides almost black; bill, legs and toes black.]

392. CAPRIMULGUS EUROPÆUS.

CC. Plettenberg Bay, Mch. 9 (1); **Z.** Jususie Valley, Dec. 2 (1); **P.** Beira, Dec. 12 (1).

The Jususie Valley example, though sexed a female, appears to be a young male, while the Beira one, which is sexed a male, is obviously a female.

["Wozavolo" of the Zulus.

In its winter-quarters the European Nightjar has similar habits to those I have noted in Europe except that it is solitary, and I have never heard it call.]

394. Caprimulgus fervidus.

Tv. Legogot, May (1); Woodbush, May (2); **P.** Coguno, June, Aug., Sept. (7); Beira, Dec., Jan. (3).

This is a somewhat rare species in South Africa. The two sexes seem to be almost identical. The females have the white on the tail-feathers and on the primaries, generally characteristic marks of the males, but the spots are, perhaps, slightly smaller.

["Dowe" of the Ntebis.

Not until I reached the Transvaal did I come across this species, and there I found it both in the Eastern and the North-Eastern localities visited, and again in the Inhambane, Beira, and Gorongoza districts of Portuguese East Africa, but it was not heard or seen near Tete. It was not common in any locality except at Coguno, where it was exceedingly plentiful. It appears about sundown, and sits both on the ground and in trees; it catches its prey from a fixed perch, and does not, I believe, hawk after the manner of *C. fossei.* It has a clear, loud, liquid call of several notes rapidly repeated, but different from that of *C. natalensis,* and not easily described, and another single peculiar note which, I believe, is the call to another bird, as I always heard it when two came together. The alarm-note is a single harsh cry, sometimes with a sharp snapping noise, probably made with the beak. This species, like most Nightjars, only utters its regular call or "song" when sitting. It was very common all round my camp at Coguno, and sat regularly on the trees near by. I noticed that it called much more often on moonlight nights; on dark nights it was seldom or never heard. The Ntebi name is derived from its single call-note.

The irides are dark brown.]

395. Caprimulgus pectoralis.

CC. Durban Rd., Sept. (2); Port Nolloth, Aug. (2).

One egg taken at Port Nolloth, Aug. 13.

["Nacht-uil" of the Cape Colonists.

The Cape Peninsula and Namaqualand are the only localities where I have seen this Nightjar, and it appears to be confined more or less to the coast-belt. Only the pair secured were seen at Port Nolloth, and none were heard calling; but at the Cape it was plentiful, and could be heard and seen every night, being very partial to orchards and cultivated lands. It was found sitting on the posts of the fencing, whence it took short flights round the fields, often returning again to its perch. It has a charming note, I think higher in tone than either that of *C. fossei* or that of *C. europæus*, and another, somewhat guttural, which is probably the sexual call. It apparently breeds fairly early, as the pair shot at Port Nolloth were flushed from the nest, which was a mere hollow in the sand on an open stony hillside, and contained one egg just laid. On skinning the female I found another in the oviduct not quite hardened.

The irides are dark brown.]

396. Caprimulgus trimaculatus.

Tv. Swali's Nek, July (1); Woodbush, June (1); Legogot, Apl., May (5).

This is a rare species in South Africa. There are only three South-African examples in the British Museum—the type of *C. lentiginosus* A. Smith, from Namaqualand, one skin from the Cunene River, and one from Rustenberg. The present series is therefore a welcome addition. The female has the white spots on the *three* outer primaries as in the male, but no white on the tail.

[Only in the Eastern and the North-Eastern Transvaal have I noted this distinct Nightjar. It was fairly plentiful at Legogot, but two specimens were seen at Woodbush and one was secured in the low veld. It appears about sundown, and always sits in roads or tracks, never, I believe, on a stump or tree, and I have not flushed it in the daytime.

Whether this bird is silent or not I do not know, but I have been unable to recognise its call.

The irides are dark brown.]

397. Caprimulgus fossii.

Z. Umfolosi Station, July (2); Hluhluwe Stream, Aug. (1); **Tv.** Woodbush, Jan. (2); Pietersburg, Mch. (1);

Legogot, Apl. (1); **P.** Beira, Dec., Jan., Feb. (3); Tete, Aug. (2).

The bird killed Jan. 4th at Beira is in full moult; the outer tail-feathers are only about half an inch long and quite hidden. The Beira birds, as remarked by Grant, are slightly smaller than those from the Transvaal, the wings averaging 150 against 160 mm.

[The three males from Beira are somewhat smaller than the rest of the series, the wing being only 6·0 inches as compared with 6·3 and 6·5 of males from other localities.

I have noted this Nightjar in Zululand, the Eastern and North-Eastern Transvaal, and in the Beira, Gorongoza, and Tete districts of Portuguese East Africa. It was neither heard nor seen in the Inhambane district.

This Nightjar usually sits on the outside branches of trees, whence it darts out on its prey, returning again to the same spot; occasionally, also, it sits on the ground. It indulges in long flights, often in wide circles, generally returning to the place which it has left, and in this respect resembling *C. europæus*. It was commonly seen in numbers every evening on the Zambesi River on my trip from Tambarara to Tete, skimming over the surface of the water, catching insects and sitting on the sandbanks. The call is a "churr" exactly resembling that of the European Nightjar, the alarm-note being a sharp snap, probably caused by the beak. In the daytime it is sometimes flushed in rough scrub and vegetation on the outskirts of woods and forests.

The irides are dark brown.]

398. CAPRIMULGUS NATALENSIS.

Z. Umfolosi Station, July, Aug. (1); Illuhluwe Stream, Aug. (1); Jususie Valley, Dec. (2).

One egg taken from a female shot at Umfolosi Aug. 30th.

Only known in South Africa from Natal and Zululand.

["Foyia" of the Zulus.

Only in Zululand and Natal have I noted this Nightjar. In Zululand it was particularly plentiful, especially in the Umfolosi country, where it was found lying up in the long grass in the dry vleis and on the hillsides. It appears just after sundown, and has a low skimming flight; it was very fond of sitting on the open railway-track or sometimes on the posts of the fencing. It has a cry of several clear liquid notes, distinct from those of other Nightjars which I have met with. It is apparently a somewhat early breeder, for I took a developed egg from the oviduct of a female shot in August, and I shot a fully-fledged young bird in December.

The irides are dark brown.]

400. Coracias garrulus.

P. Beira, Dec. 2, 12, 16, 17 (6).

[It was only in the Beira district of Portuguese East Africa, in the summer of 1906–7, that I came across this bird, and I find the following references to it in my diary:—

"2 Dec., 1906.—Large flock of European Rollers passed over here ($6\frac{1}{2}$ mile camp) this afternoon, coming from the N. and going S., travelling very high. After wasting several cartridges I succeeded in securing three specimens."

"16 Dec., 1906.—Several small lots of *C. garrulus* passed over going south to-day." And again, under date the 5th Feb., 1907, I find:—

"The European Roller which was so common here a few weeks back has gone from round my camp ($6\frac{1}{2}$ mile), and I only saw two or three as I was walking up from Beira."]

401. Coracias caudatus.

Tv. Klein Letaba, July, Aug., Sept. (7); **P.** Coguno, Aug., Sept. (4); Beira, Nov., Dec. (2); Tete, Sept. (4).

A young male, marked "Beira, Dec. 16," has the crown more faintly tinged with green than the adult and the breast is cinnamon instead of lilac, while the elongated tail-feathers are, of course, absent.

[The Lilac-breasted Roller has been observed in Zululand north of the Hluhluwe Stream, in the Eastern and Northern Transvaal, and in the Inhambane, Beira, Gorongoza, and Tete districts of Portuguese East Africa. This species is more or less confined to the lower "bush-veld," and I have only seen an occasional individual in the high country.

It is usually observed in pairs perched on the tops of bare trees, and when approached flies round in large circles high up out of shot, keeping up a continuous discordant cry. On the wing it often indulges in sudden tumbles, rising again abruptly when within a few feet of the ground. It often mobs hawks and crows that happen to pass near it. I have always observed that the bird so mobbed makes off as fast as it can, and never attempts to retaliate. It feeds entirely on insects, and will congregate in numbers in company with the Drongos around grass-fires to catch grasshoppers, beetles, and other insects driven out by the flames.

The soft parts of an adult are :—Irides hazel; bill black; legs and toes dark greenish yellow.]

402. CORACIAS SPATULATUS.

P. Coguno, Aug., Sept. (2).

So far as I am aware the Racquet-tailed Roller has not hitherto been obtained in Portuguese East Africa, but within South African limits only in Rhodesia.

[I have not seen this Roller elsewhere than in the Inhambane district of Portuguese East Africa, and even there, although several individuals were seen, it could not be said to be plentiful. It was observed singly, and I remarked that it was not so noisy as *C. caudatus*. It generally sat on the tops of small bushes and trees or on the lower branches of the larger ones. I found it rather wary, and when disturbed it merely moved off to some distant position, never circling round high up as does *C. caudatus*.

The soft parts of an adult are :—Irides brown; bill black; legs and toes greenish or greenish yellow.]

403. CORACIAS MOSAMBICUS.

Tv. Klein Letaba, Sept. (1); **P.** Tete, Aug. (1).

[I only noted the Purple Roller at Klein Letaba, where it was fairly plentiful, and in the Tete district, where it was scarce. It is always observed singly, and generally frequents well-timbered country, and is seen either perched on the middle branches of the trees or on the ground devouring some prey. When disturbed it flies slowly off to some other position, and is generally very quiet in habits, but is wary and not easily shot. It feeds principally on insects such as grasshoppers and beetles. Its cry is loud and discordant, but is not often uttered.

The soft parts of an adult are:—Irides dark hazel; bill black; legs and toes brown washed with green.]

404. Eurystomus afer.

P. Beira, Nov., Jan. (2); Masambeti, Oct. (1).

["Sauri" of natives in the Beira country.

It was only between Beira and Tete that I saw this species, and even there it was local, being commonest near Beira. It inhabits forest country, and is generally seen sitting on the topmost branches of the large dead trees; it indulges in long circling flights when disturbed—and often when not—calling continuously and loudly all the while, after the manner of *Coracias caudatus*, but I have never noted it tumbling to the same extent. It feeds principally on insects, and I have seen it dart out and catch locusts on the wing after the manner of a Flycatcher. I have observed it both singly and in small parties of eight or more; these latter may have been old and young or birds migrating.

The soft parts of an adult are:—Irides brown; bill yellow; legs and toes greenish-yellow.]

Merops superciliosus.

Reichenow, Vög. Afr. ii. p. 325.

P. Masambeti, Oct., Nov. (5); Beira, Jan. (1).

Six eggs taken at Masambeti, Oct. 24.

This Bee-eater has not hitherto been taken south of the Zambesi, so far as I know. It is a common East African species, ranging, according to Reichenow, from Shoa to Mozambique. The most southern locality mentioned by Reichenow is Kissango, north of Mozambique and at least 700 miles north of Beira.

The eggs are like those of other Bee-eaters; they average 1·1 × ·9 inch (*i. e.* 28 × 23).

[Only near Beira, where it was plentiful, and up towards the Zambesi, where it was scarcer, have I seen this Bee-eater. I met with it both in pairs and large flocks at the same time; it was one of the common birds of Beira, and could be seen any day sitting on the acacias and other trees in the streets and the gardens of the private houses. It does not appear to hawk for food like the other Bee-eaters, but darts out on its prey from a fixed perch after the manner of *Melittophagus meridionalis*. In Beira enormous flocks were seen towards evening circling and twisting over the mangrove-swamps where they roosted, presenting at a distance the appearance of Swallows. At Masambeti, near Beira, I found two pairs breeding in the banks of some drainage-ditches cut through cultivated land, but only one hole contained eggs. These holes ran in for about three feet, with hardly any upward incline, and in the cavity at the end of one I captured a female sitting on six eggs, which I should imagine is rather a larger clutch than usual. When dug out the cavity was within six inches of the surface of the ground, and there was no deposit of débris or other matter. The cry of this bird is a single clear note, and its food consists principally of winged insects of various kinds.

The soft parts of the adult are:—Irides crimson; bill, legs and toes black.]

408. Merops nubicoides.

Merops natalensis C. Grant, Bull. B. O. C. xxi. 1908, p. 66.

Tr. Woodbush, Jan. (3); **P.** Masambeti, Nov. (1); Beira, Nov., Dec. (4).

[Woodbush in North-East Transvaal, the Beira district, and the Zambesi, where I saw several hawking over the water on my trip from Tambarara to Tete, are the only localities where this beautiful Bee-eater was noted. It was usually seen in threes, fours or half dozens, comprising old and young, sitting on the tops of the trees or hawking high up for food well out of shot. This Bee-eater is perpetually on migration or is a great wanderer, as all I have seen have never remained for more than a few hours in any one locality. The cry is a single clear note, rather louder than that of *M. superciliosus*; the food consists of insects of various kinds, which are taken on the wing as described above.

I find the following note in my diary with reference to the young male shot at Beira on Dec. 11th, 1906:—"The immature male of *M. nubicus* shot to-day is interesting, as it is assuming the adult colouring without a moult" (see Bull. B. O. C. xxi. p. 66).

The soft parts of the adult are:—Irides brown; bill, legs and toes black. Young similar.]

409. Dicrocercus hirundineus.

P. Coguno, Aug. (2).

[On only two occasions have I seen this pretty Bee-eater; at Coguno, where the pair shot were observed, and again on the [illegible]th May, 1907, when another pair were seen at Tambarara, Gorongoza district. It was noticed sitting on the tops of the trees hawking for insects after the manner of the larger Bee-eaters. It has a single clear call, somewhat different from that of the other Bee-eaters.

The soft parts of the adult are:—Irides bright red; bill, legs and toes black.]

410. Melittophagus meridionalis.

N. Illovo, Nov. (2); **Z.** Jususie Valley, Dec. (2); Umfolosi Station, June, July, Aug. (6); **Tv.** Klein Letaba, July, Sept. (3); **P.** Coguno, Aug. (3); Masambeti, Oct., Nov. (2); Beira, Dec. (3); Tete, Aug., Sept. (2).

Four eggs taken at Masambeti, Oct. 30.

Three young birds taken at Beira on Dec. 9th are apparently just out of the nest, and are in an interesting state of plumage. They are green above, much as in the adult, while below, the breast is green, becoming yellow on the throat and cinnamon on the abdomen. The bill is very short.

[This is a very common Bee-eater in all the lower bushveld country in Eastern and East-Central South Africa. I have noted it from Natal and Zululand, the Eastern and

North-Eastern Transvaal, and the Inhambane, Beira, Gorongoza, and Tete districts of Portuguese East Africa. In habits this little Bee-eater is somewhat different to the other species; it is usually observed along the banks of rivers and streams or low-lying swampy ground, where it sits on the tops of the bushes and reeds, from which it darts out on to its prey, coming back to its perch in a graceful circle. In the Inhambane district I have seen it some considerable distance from water, and I have found it sitting in the bushes and stumps in native clearings and lands. The call is a sharp single note, not loud, and is often uttered when disturbed, especially by pairs. It apparently breeds from October onwards, and I took the eggs and young in the Beira district in October and December respectively. The nesting-hole is placed in a bank, often on the railway, and runs in only about two feet in length, with a slight upward tendency and a cavity at the end. The hole is usually run in straight. I have seen it turned at right angles at a few inches from the entrance, but this is generally due to the birds meeting with hard soil or roots. The clutch is apparently four, although three is often taken, and both birds assist in incubation and feeding the young. The food consists of insects, which are usually caught on the wing.

The soft parts of the adult are :—Irides crimson ; bill, legs and toes black. In the young the irides are brown.]

411. MELITTOPHAGUS BULLOCKOIDES.

Tv. Legogot, Apl., May (5) ; **P.** Tete, Sept. (1).

[This is distinctly a scarce Bee-eater. At Legogot it was fairly common, going about in flocks of twenty or more and generally hawking high up out of shot ; towards evening these would congregate together, and with much calling and circling at a great height go away towards the Legogot Mountains, where they roosted on the ledges of the rocks or in the deep dongas. In the Tete district only a pair or so were seen. The cry is somewhat sharper and shriller than that of the other Bee-eaters.

The soft parts are:—Irides hazel : bill, legs and toes black.]

412. CERYLE RUDIS.

CC. Plettenberg Bay, Mch. (6); **Z.** Umfolosi Station, July, Aug., Sept. (6); **Tv.** Klein Letaba, Aug., Sept. (8); **P.** Beira, Feb. (1); Tete, Aug., Sept. (2).

["Isicuya" of the Zulus.

This Kingfisher is quite the commonest in South Africa, and was noted or taken in every locality visited from the Cape to the Zambesi, excepting Namaqualand. It is usually seen in pairs or threes and occasionally fours or halfdozens, the latter probably old and young. It systematically works the water, hovering with the bill pointed vertically downwards; on seeing a shoal of fish it shuts its wings, and drops like a stone head first on to its victim, which it devours on the wing if it is small, or, if large, takes to the bank to swallow.

This Kingfisher perches on reeds, low bushes, and dead branches, and is often seen sitting on the ground, yet it never fishes from such positions, but always on the wing. The cry is a sharp "kwik," and is, I believe, merely a call-note. It is very tame, passing very near when on the wing and fishing within a few yards of people; when settled, it will allow itself to be approached quite close before taking wing. I have never succeeded in finding the nest of this species.

The soft parts are:—Irides dark brown; bill, legs and toes black.]

413. CERYLE MAXIMA.

CC. Plettenberg Bay, Mch. (1); **Z.** Ngoye Hills, Oct. (2); **Tv.** Klein Letaba, Sept. (2).

Three eggs taken at Klein Letaba, Sept. 9, measure about 46 × 36 mm.

[I have observed the Giant Kingfisher in the Knysna district of Cape Colony, Zululand, Klein Letaba, and in the Beira, Gorongoza, and Tete districts of Portuguese East Africa. It is everywhere very wild, and nowhere can it be said to be plentiful. Always observed in pairs and frequenting both large and small rivers or streams and occasionally lagoons and lakes, it is perhaps more partial to well-wooded and shady streams, but is never actually found in forest. The flight is fast and straight, and the bird flies close to the surface of the water, except when passing from one water to another, when it keeps well up over the tops of the trees. This species, like most Kingfishers, fishes from some projecting stump or branch, and is often seen resting in the middle of large trees. The cry is very loud and somewhat harsh, and is generally uttered when the bird is on the wing. I took a nest on Sept. 9th, 1905, at the Klein Letaba; it was in the sandy bank of a large dry donga cut into the bank of the Klein Letaba River. The hole ran in about five feet, with a slight upward tendency, having a large cavity at the end in which I found three eggs deposited on the earth without any débris. Both the old birds were secured, the female being shot on a tree close by, while the male was caught sitting on the eggs.

The soft parts of an adult are :—Irides dark brown ; bill black ; legs and toes brown.]

414. ALCEDO SEMITORQUATA.

CC. Knysna, June (1) ; **Z.** Ngoye Hills, Oct. (1) ; **P.** Masambeti, Nov. (2).

[Only in the Knysna, the Ngoye Hills in Zululand, and at Masambeti near Beira have I observed this species ; it was never plentiful. It frequents well-wooded and shady rivers and streams, and I have never seen it on open lagoons or lakes. It is very shy and retiring in habits, making off at the first alarm, and has usually to be shot on the wing. It fishes from an overhanging bough or thick reed, and the cry is a single shrill note, generally uttered on the wing. It breeds in the banks of the rivers and streams, but I have never succeeded in securing the eggs.

The soft parts of an adult are :—Irides hazel ; bill black ; legs and toes tomato-red.]

415. CORYTHORNIS CYANOSTIGMA.

CC. Plettenberg Bay, Mch. (1) ; **Z.** Umfolosi Station, Sept. (2) ; Ngoye Hills, Oct. (1) ; **Tv.** Woodbush, June (1); **P.** Masambeti, Nov. (4) ; Beira, Feb. (2).

["Iguyamtwama" of the Zulus; "Dederu" of the Ntebis. This was one of the commonest Kingfishers in S. Africa, and I have seen it in every locality from the Cape through East and East-Central South Africa to the Zambesi. It is equally common on rivers and streams in wooded and forest country and on lagoons and open reedy swamps, where it is seen either perched on some overhanging branch or reed waiting for its prey, or flying with incredible swiftness and appearing like a blue streak. It feeds principally on small fishes, besides crustacea and beetles. I have generally observed it singly. It breeds in the banks of the rivers and streams, but I have never succeeded in finding an occupied nesting-hole.

The soft parts of an adult are:—Irides dark brown; bill and legs rich tomato-red. In the young the bill is blackish, with part of the lower mandible and the extreme tip of the upper very pale tomato-red; legs and toes very dark.]

416. ISPIDINA NATALENSIS.

N. Illovo, Nov. (3); **Z.** Ngoye Hills, Oct. (2); **Tv.** Woodbush, May (1); **P.** Masambeti, Nov., Oct. (2).

Two clutches of two and three eggs each, taken at Masambeti, Oct. 25 and Nov. 11.

[This little Kingfisher was observed in Natal, the Ngoye Hills, Zululand, Legogot, Woodbush, and the Inhambane, Beira, and Tete districts of Portuguese East Africa. I did not myself see this species in the Northern Transvaal, but the dried specimen sent flew against the window of a farmhouse in the village of Woodbush and was picked up dead by the farmer, from whom I got it. It is usually observed on the outskirts of woods and forests, not necessarily near water, perched on some projecting branch or bough, whence it darts on its prey, which consists largely of spiders and coleopterous insects. I have never seen it take fishes. The flight is straight and marvellously quick, and the call is sharp and not easily distinguished from that of *Corythornis cyanostigma*. It was found breeding at Masambeti, near Beira, and two sets of eggs were taken, on Oct. 25th and Nov. 11th, 1906. The nesting-holes were situated in the cut-away bank of the railway and ran in about two or three feet with a slight upward tendency, the eggs being deposited in a cavity at the end on the bare earth without any lining or débris.

The soft parts of an adult are:—Irides dark brown; bill, legs and toes pale tomato-red.]

417. HALCYON SWAINSONI.

P. Masambeti, Oct. (1).

Four eggs taken at Masambeti, on Oct. 25th, closely resemble those of other species of the genus, being white and very round.

[Only at Masambeti, where a single pair were found breeding, was this species observed. The flight and cry are similar to those of *H. orientalis*, and its general habits are probably much the same. The nesting-hole was situated in a cut-away bank of the railway and ran in about three or four feet; four eggs, which is the full clutch, were found in a cavity at the end and were deposited on the bare soil without lining or débris.

The soft parts of an adult are:—Irides hazel; bill, legs and toes red.]

418. HALCYON ALBIVENTRIS.

N. Illovo, Nov. (2); **Z.** Jususie Valley, Nov., Dec. (2); Ngoye Hills, Oct. (1); **Tv.** Klein Letaba, July, Sept. (2); Woodbush, June (1); Legogot, Apl., May (4); **P.** Coguno, June, July (3).

Some individuals of this species are much more strongly washed with ochreous on the breast and flanks than others. In the above series the birds from Legogot, killed in April and May, shew this most clearly, and I imagine that these are freshly moulted individuals and that the buff gradually wears off in the course of the year.

The birds from Coguno ought to be referable to *H. orientalis*, the type of which is said by Peters to have come from Inhambane, but they have all the characters of *H. albiventris*.

[This species has been observed in Natal, Zululand, and the Eastern and Northern Transvaal. In the Portuguese country to the east and north its place is taken by *H. orientalis*, though specimens from Inhambane and Legogot (E. Transvaal) intergraduate between the two. Therefore, where these species meet they interbreed, and specimens from such localities would shew characters of both.

This bird is fond of well-wooded country, and is usually observed perched on the lowest branches of trees, often along shaded rivers and dry dongas. It feeds principally on insects and probably on freshwater crustacea, but I have never seen it take fishes. It has a loud harsh cry, the alarm-note being different from the call; the flight is fast and straight, the alarm-note being uttered as it leaves its perch.

The soft parts of an adult are :—Irides brown; bill, legs and toes red. In the young the bill is reddish-brown, more brown than red, and the legs and toes dark brown tinged with pale red.]

419. HALCYON ALBIVENTRIS ORIENTALIS.

P. Masambeti, Oct., Nov. (2–4 nestlings) ; Beira, Jan. (1).

[Only in the Beira district of Portuguese East Africa have I observed this species. In cry and general habits it exactly resembles *H. albiventris*. It breeds during the wet season, and I found the nest at Masambeti, near Beira, at the end of October. The nesting-hole was situated in the bank of the Masambeti stream under an overhanging bough, and ran in about four feet with a slight upward tendency; from a cavity at the end I took four young birds: both the adults were caught with a grass noose at the entrance.

The soft parts of the adult are similar to those of *H. albiventris*.]

420. HALCYON CHELICUTI.

Z. Ntambana Hills, Aug. (1) ; **Tv.** Legogot, Apl. (1) ; **P.** Coguno, Aug., Sept. (4) ; Masambeti, Nov. (1) ; Beira, Dec. (1) ; Tambarara, June (1) ; Tete, Sept. (1).

["Nongwosoya" of the Zulus.

Only in the Ntambana Hills, north of the Hluhluwe Stream in Zululand, Legogot, and the Inhambane, Beira, Gorongoza, and Tete districts of Portuguese East Africa have I observed this little Kingfisher. It seems very partial to clearings and native gardens, where it is seen perched on the lower branch of a dead tree, keeping a sharp look-out for its prey, which consists mainly of coleopterous insects. I have observed it also in parts quite remote from any water, and it is usually solitary, although at Beira it was in pairs; as this was, however, in the wet summer season it was probably breeding, but I was quite unable to locate any nests. In the early morning and late afternoon, seldom during the middle of the day, it can be seen perched on the topmost branch of a tree and giving forth a loud continuous "trill," while sitting bolt upright and regularly opening and shutting the wings to their fullest extent, so as to make it appear as though the movement of the wings had greatly to do with the "song"; and from this peculiar habit I have always called it the "concertina bird." I believe that it is only the male which "sings," but I have not been able to conclusively prove the fact. This is one of the earliest birds to rise in the morning, and I have heard it trilling before the first streaks of dawn. The flight is fast and straight, but never long sustained.

The soft parts of an adult are:—Irides brown; bill, upper mandible dark purple, lower red; legs and toes red, darkest on the upper surface.]

423. COLIUS STRIATUS.

CC. Durban Rd., Mch. (1); Knysna, Feb. (1); Plettenberg Bay, Feb., Mch. (2).

423 *a*. COLIUS STRIATUS MINOR.

Reichenow, Vög. Afr. ii. p. 203.

Z. Jususie, Jan. (1); Umfolosi Station, July (2); Hluhluwe Stream, Aug. (4); **Tv.** Woodbush, June, Dec. (3); Legogot, Apl., May (2); **P.** Coguno, June, Aug., Sept. (3).

Reichenow distinguishes a subspecies from East and South-East Africa, extending south to Natal, by its smaller size and by the blacker chin and throat. The series collected by Grant shew some variation in size, though a by no means constant one, but the character of the black chin is fairly noticeable and may suffice.

["Muis-vogel" or "Mouse-bird" of the Colonists; "Nhlazi" of the Zulus.

This is the common Coly of most localities that I visited. I have met with it in the Cape Peninsula, the Knysna district, Zululand and Natal, the South-Eastern, Eastern, and North-Eastern Transvaal, and the Inhambane, Beira, Gorongoza, and Tete districts of Portuguese East Africa. It was found to be more plentiful farther north, and was especially common in the Inhambane district. It is gregarious in habit, and was often found in flocks of twenty or more individuals feeding on fruit and berries. It does considerable damage in orchards and gardens.

It gets its name of "Mouse-bird" from the quaint way in which it clambers among the branches and its habit of getting into thick bushes and remaining quiet, much as mice will do. The cry is a whistle, uttered generally when on the wing or on being disturbed, and is apparently both call- and alarm-note. The flight is low, straight, and rapid, often with a few rapid beats of the wing and a long glide, the birds, as a rule, diving into the middle of the bushes before settling.

The soft parts are:—Irides brown; bill, upper mandible dark slate, lower light slate; legs and toes dark crimson.]

424. Colius capensis.

CC. Table Mt. slopes, Feb. (1); Durban Rd., Mch., Sept. (2); Port Nolloth, Aug. (2); Klipfontein, May (1).

I can see no difference in colour between the Cape Peninsula and Namaqualand birds, so that the latter shew no approach to *C. c. damarensis* Reichw.

["Muis-vogel" or "Mouse-bird" of the Colonists.

I have only observed this Mouse-bird in the Cape Peninsula and Namaqualand, and it was common in both localities. In habits it resembles *C. striatus*, being, like that species, gregarious and generally seen in flocks of perhaps a dozen individuals, but I have never observed it in such large flocks as that species. It is also one of the fruit-growers' worst enemies, damaging far more than it eats. The cry is somewhat different from that of *C. striatus*, being more of a double note.

The soft parts are:—Irides dark brown; bill pale slate-coloured, dark at tip of upper mandible, yellow at tip of lower; legs and toes coral-red.]

426. Bucorax cafer.

Z. Sibudeni, Oct. (3); **Tv.** Klein Letaba, July (head of ♂ only); **P.** Beira, Dec. (head of ♀ only), and wing not ticketed.

Of three males killed on the same day, Oct. 28th, at Sibudeni, two appear to be somewhat younger than the third. The culmen of the youngest of these, measured in a straight line with dividers, is only 18 in. against 22 in the older specimen. In the young bird the greater part of the base of the lower mandible is white, not black (in the dried skin). The plumage of the younger bird, too, is much browner than in the adult, while some of the darker adult feathers are already appearing on the back.

[" Brom-vogel " of the Colonists; " Insingisi " of the Zulus; " Marandane " of the Machangaans.

This great Hornbill was commonly noticed in small parties of from three to six individuals in Zululand, the Transvaal, and the Beira and Gorongoza districts of Portuguese East Africa. It is usually seen on the ground hunting for food, which consists of almost any thing from insects to reptiles and young birds. In many parts protection had been given to this bird, but when it was discovered that it destroyed quantities of young game-birds, this was removed. It roosts at night in tall trees in the woods and forests, where also I have been shown the nest, composed of sticks placed in the topmost forks or strong branches, but I have never seen one occupied. The flight is slow but powerful, the white primaries being then very conspicuous, and the call is a penetrating low " boom " of about five syllables, the last three being lowest in tone; it is somewhat ventriloquial and can be heard to a considerable distance. It is possible that more than one bird contributes to the call, but as the syllables run concurrently it is difficult to prove this conclusively. When taken young it is a remarkably tame and amusing pet, but has usually to be kept away from the poultry yard. Wounded birds when attacked by a dog stand with the wings outstretched and make vicious digs at the animal with their beaks, but never attempt to use the wings; they continually inflate and deflate the pouch, producing a loud snake-like hiss.

The soft parts of the adult are:—♂. Irides pale grey, with dark brown lines and vermiculations; all bare skin on head and neck red; bill, legs and toes black.

♀. The bare skin round the eyes is duller and the chin is metallic blue, which extends more or less on to the throat.

I have seen many young birds in captivity; they are similar to adults in plumage, but the black is duller, and all the bare skin of the head and neck is dull sooty-black without red.]

427. BYCANISTES BUCCINATOR.

Z. Sibudeni, Oct., Nov., Dec., Jan. (5); Ngoye Hills, Sept., Oct. (4); **P.** Beira, Feb. (1); Tambarara, June (1); Tete, Sept. (1).

The size of the bill and casque in the male varies very considerably; in the male from Beira the casque measures 160 mm. in a straight line, in one from Sibudeni only 115. I find, however, as great variation among examples from Nyasaland in the British Museum, and suspect that it is purely a question of age.

["Nkanat" of the Zulus; "Kegemide" of the Ntebis, Gorongozas, and Njungwis.

The Trumpeter Hornbill was found in Natal, Zululand, and the Inhambane, Beira, Gorongoza, and Tete districts of Portuguese East Africa. It was common in all these localities except the Inhambane district, where only two or three pairs were seen and no specimens were secured, it being very wild. Curiously enough, it is not known in any of the forested country in the Eastern and North-Eastern Transvaal, although one would imagine that these parts are as well suited to its habits as many others. It is generally seen in flocks of from half a dozen to twenty or more, and is entirely frugivorous, being very partial to wild figs, the berries of the Ntuma, and the seeds of certain leguminous trees. The flight is noisy, swift, and strong, consisting of several flaps of the wings, then a glide, and the flaps again. The cry is loud and harsh, and not easily described, but cannot be mistaken for that of any other bird; it is uttered both on the wing and when sitting. In feeding the birds are very noisy, continually calling and flapping about in a clumsy manner in the trees.

The soft parts of the adult are :—♂. Irides brown; orbits pinky flesh-coloured; bill horny black or blackish, pinky flesh-coloured at the basal end of the casque; legs and toes black. The female is similar to the male, except that the orbits are dusky.]

427 *a*. Bycanistes cristatus.

P. Tambarara, June (1).

[“Kegemide” of the Ntebis and Gorongozas.

This Hornbill has only been observed in the woods and forests of the Beira and Gorongoza districts of Portuguese East Africa, where it was as plentiful as *B. buccinator* and consorted to a great extent with that species. In its food, flight, and general habits it resembles it, but its cry is very different; it is not harsh and loud, but more approaching a growl, and is not easy to describe exactly.

The soft parts are :—Irides dark brown; orbits pinky flesh-coloured; bill dirty white; legs and toes black.]

428. Lophoceros melanoleucus.

CC. Knysna, Jan. (3); **Z.** Sibudeni, Nov., Dec., Jan. (6); Jususie Valley, Dec. (1); Ngoye Hills, Oct. (2); **P.** Coguno, June (4); Masambeti, Nov. (1); Beira, Jan. (1); Tambarara, June (1); Tete, Sept. (1).

[“Slap-gat” of the Colonists; “Nkolwane” of the Zulus; “Nyumdero” of the Gorongozas.

This Hornbill is much more a bird of the woods and forests than other members of the genus, and is not usually found in ordinary bush-veld. It is somewhat locally distributed, and was found in the Knysna, at Sibudeni and Ngoye in Zululand, and in the Inhambane, Beira, Gorongoza, and Tete districts of Portuguese East Africa, but does not exist at Zuurbron, Legogot, or the Woodbush Hills, although these localities are well forested and, one would think, well suited to its habits. It is generally observed in flocks of about a dozen individuals, and in pairs or family-parties in the summer season. The flight is graceful and floating, without a great deal of flapping, and it usually perches on the topmost boughs of the trees. It feeds on insects of various kinds, wild fruit and berries, and often visits orchards and lands for the fruit and grain, especially kaffir corn. I have seen it catch locusts and grasshoppers on the wing with a pretty easy grace. The call is almost a whistle, rather shrill and of several syllables, the middle ones uttered rapidly.

The soft parts of the adult are :—♂. Irides pale yellow : bare skin round eyes and at base of cheeks adjoining the lower mandible sooty black : bill dull red, pale yellow at base of both mandibles ; legs and toes dull black.

♀. Soft parts as in male, except the bare skin round eyes and at base of cheeks adjoining the lower mandible, which is pale green. In a young female the irides are greyish yellow ; bare skin round eyes and base of cheeks paler green ; bill duller and lighter, without the pale yellow at base.]

430. LOPHOCEROS EPIRHINUS.

Tv. Klein Letaba, Aug. (4).

["Nkolu" of the Machangaans.

Only in the low bush-veld of the North-Eastern Transvaal have I seen this Hornbill and it was there fairly plentiful. It is usually in pairs, and has an easy graceful flight as it moves from tree to tree. In company with *L. leucomelas* it came in numbers to the grass-fires, and would perch on the lowest branches of the Mopani trees or bushes in front of the fire and dart down on the numerous grasshoppers and other insects that were driven out. Insects of various kinds appear to be its principal food, and it is often observed on the ground hunting for its prey, especially on burnt-off patches. Its cry is a single, low, melancholy note, not greatly dissimilar to that of *L. leucomelas*.

The soft parts of the adult are:—

♂. Irides reddish brown; bare skin round eyes and base of cheeks adjoining the lower mandible sooty black; bill black, with a long yellow patch on the upper mandible, extending from the base under the nostril to over half the length of the mandible, and three or four yellow transverse lines on the lower. Legs and toes black.

♀. Irides as in male; bare skin round eyes and base of cheeks browner; bill, upper mandible at base pale yellow, along cutting-edge and apical portion dull dark red; lower mandible, basal two-thirds black crossed with four pale yellow lines, apical portion dull dark red. Legs and toes as in male.

In neither sex does the colour of the bill alter after death.]

431. LOPHOCEROS ERYTHRORHYNCHUS.

P. Tete, Aug., Sept. (4 and one head).

["Nyumdero" of the Njungwis.

Around Tete and south of Makumbi's country to about the 18° south latitude, on my return trip to the coast, this species was found. It was generally in small flocks of half a dozen individuals and was somewhat wary. Every morning flocks would pass over, coming out of the back country and making towards the rivers, where they spent the day, presumably to feed on the wild fruit and berries and to rest in the shade of the leafy trees that line the banks—for, as it was the dry season, the only leafy vegetation was near the river; they passed back again towards sundown, each flock regularly taking the same course, so that it was then by a little waiting that specimens could be secured. The flight is easy and graceful, with a few flaps of the wings, accompanied by the long glide so characteristic of the Hornbills. The cry is a single note, low and clear, and almost a whistle.

The soft parts of an adult are:—Irides pale yellow; bare skin above eye bluish white, behind and below eye and at base of cheeks adjoining the lower mandible pinkish flesh-coloured; the throat and neck pale white; bill, upper mandible very dark tomato-red, whitish horn-coloured at the base, lower mandible whitish horn-coloured at base, next part blackish, apical two-thirds and cutting-edges very dark tomato-red; legs and toes sooty black.]

433. LOPHOCEROS LEUCOMELAS.

Z. Hluhluwe Stream, Aug. (1); **Tv.** Klein Letaba, July, Aug., Sept. (6); **P.** Tete, Sept. (1).

["Umxeu" of the Zulus; "Nkolu" of the Machangaans. The Yellow-billed Hornbill has been noted at the Hluhluwe Stream, Zululand, the Klein Letaba, and in the Tete district of Portuguese East Africa. It was not seen in the other localities visited; and as it is a striking species it cannot easily be overlooked. It was by no means common in Zululand, or in the Tete district, but was very plentiful at the Klein Letaba. It inhabits bush country, usually singly or in pairs, and was seen sitting on the top of thorn-trees or halfway up a Mopani: it feeds on fruit and berries and insects of all kinds, for which it visits grass-fires. The flight is quite Hornbill-like, and the cry is a single loud and clear note, a sort of cross between a mew and a whistle.

The soft parts of an adult are:—Irides bright yellow; bare skin round eyes, base of cheeks, and throat pale flesh-coloured; bill yellow-chrome, tips and cutting-edge of both mandibles blackish.]

434. HAPALODERMA NARINA.

CC. Knysna, Jan. (2); **N.** Illovo, Nov. (1); **Z.** Sibudeni, Oct., Nov., Dec., Jan., Feb. (6); Ngoye, Sept., Oct. (4); **Tv.** Woodbush, Dec., Jan., Feb. (5).

A young bird just fledged, but with the tail still ungrown, was obtained at Woodbush on January 29. It is green above, much as is the adult, but has a number of conspicuous white spots on the coverts and inner secondaries;

below, the breast is buffy, mottled and irregularly barred with green and dusky.

[“Bosch-lourie” at Knysna; “Trogon” of the Transvaal; “Sansobi” of the Zulus.

I have taken this Trogon in the Knysna, in Zululand and the North-Eastern Transvaal; it was said to occur at Legogot, though I did not myself come across it; but I both saw and heard it in the Beira and Gorongoza districts of Portuguese East Africa. Where found it is fairly plentiful, and is seen either singly or in pairs; it is essentially a bird of the woods and forests, never being seen in ordinary “bush-veld,” but occasionally in tree-fringed streams and rivers in forested districts. It is often seen flitting through the trees with a rapid twisting flight, the green back shining in the sunlight; but when perched it is extremely difficult to detect unless the watcher catches sight of the belly, the rest of the colouring harmonizing so well with the foliage of the trees. The cry is only uttered in the summer season, the bird being apparently silent during the rest of the year; it is, I believe, only uttered by the male and sounds like a “goo” several times repeated. It can be easily mistaken for the cooing of *Haplopelia larvata*, except that with the Trogon it never varies in tone. It can be heard at a good distance and is distinctly ventriloquial, the performer often being quite close when it sounds a distance away. The food of this bird consists of insects, which I have seen it catch on the wing, darting out from a fixed perch. I have never succeeded in finding the nest, but it apparently has two broods, as I have shot the young in changing plumage in February and again in April, the latter probably representing the broods hatched in January and February and the former those about October.

The soft parts of the adult are:—

♂. Irides rich brown; bare skin round eyes blue, bare skin at back of eye, base of beak, and throat green and yellow; bill lemon-yellow at base, greenish yellow at tip; legs and toes whitish flesh-coloured.

♀. As in the male, except the bare patch on throat yellow, and legs and toes browner.

♀ *imm.* Irides paler brown; bill horn-coloured, all the bare skin dusky; legs and toes much browner.

♂ *juv.* Irides as in imm. ♀; bill horny white; legs and toes brownish flesh-coloured.]

435. GEOCOLAPTES OLIVACEUS.

Tv. Zuurbron, Apl. (1).

[Since the close of the Central Cape Colony trip I have only observed this fine Woodpecker in the mountains of Namaqualand and in the mountainous country to the east of Wakkerstroom, South-Eastern Transvaal. Its loud resounding cry, not unlike the alarm "whistle" of the Klipspringer (*Oreotragus saltator*), at once betrays its presence. It spends most of its time searching the crevices of the rocks and boulders for insects, which it captures with its long flexible tongue. It can often be seen clinging to the flat surfaces of the great rocks, being easily able to hold on to any slight inequality. Its flight is very swift and straight, the cry being uttered both on the wing and when settled. Since the trip referred to above, I have been able to supplement the notes on the breeding-habits of this bird. I find that it invariably nests in sandy banks, generally those of dongas and spruits at the base of kopjes and mountains; the nesting-hole does not go in to any very great depth—usually some three to four feet, with a slight upward tendency, ending in a cavity in which the eggs are deposited on the bare earth. Often the hole, after going in for some few inches, is turned abruptly to the right or left, and where a pair have decided to nest, a number of smaller or greater excavations can be seen where the birds have tested the bank.

The soft parts of the adult are:—Irides yellowish white; bill black; legs and toes ashy grey.]

436. CAMPOTHERA NOTATA.

CC. Plettenberg Bay, Mch. (1).

["Hout-Kopper" of the Cape Dutch. The Knysna Woodpecker was only observed in the Knysna district of Cape Colony, and I did not commonly see it there. In cry and habits it much resembles *C. abingdoni.*

The soft parts are:—Irides hazel; bill blackish horn coloured, somewhat paler at base of lower mandible; legs and toes slate-coloured.]

437. Campothera abingdoni.

N. Illovo, Nov. (2); **Z.** Ngoye Hills, Oct. (1); **P.** Coguno, Aug. (3); Masambeti, Nov. (1); Beira, Nov., Dec., Feb. (3).

[The Golden-tailed Woodpecker was procured in Nata and Zululand, and in the Inhambane, Beira, and Gorongoza districts of Portuguese East Africa. It was found especially plentiful in the Inhambane and Beira districts. It is always in pairs and frequents well-timbered country, being particularly partial to the dead trees left standing in native clearings, where its continued tapping betrays its presence. It has a loud sharp cry, which can be heard at a considerable distance. The flight is straight and swift, though usually only from tree to tree, the bird pitching generally on the trunk and working up to the topmost branches, searching every crevice on the way.

The soft parts of the adult are:—♂. Irides reddish brown or purple; bill dark slate-coloured; legs and toes grey-slate-coloured.

♀. Irides brown; the rest of the soft parts as in the male.]

438. Campothera smithi.

Tv. Klein Letaba, Sept. (1).

[Only on the occasion when I secured the specimen brought home have I seen this Woodpecker; a pair were then observed. In cry and habits it resembles *C. abingdoni*.

The soft parts are:—Irides reddish brown; bill blackish slate-coloured; legs and toes slate-coloured.]

439. Campothera malherbii fülleborni.

Neumann, Journ. f. Orn. 1900, p. 204; O.-Grant, Bull. B. O. C. xxi. 1908, p. 66.

P. Masambeti, Nov. (2).

This subspecies, recently described by Neumann from Langenburg on Lake Nyasa, seems to be hardly separable from the typical form, *C. malherbii*, originally described from Zanzibar.

However that may be, it is a new species for South Africa, though it was included by Swynnerton ('Ibis,' 1908, p. 410) in his list of the birds of Gazaland, having been taken at Chirinda on the Mashonaland-Portuguese frontier.

Curiously enough, Gunning and Haagner in their recently published Check-list of South-African birds include it on the strength of its being recorded from Zomba (!) by Reichenow. I need hardly add that Zomba (in Nyasaland) is far to the north of the Zambesi, the boundary for South Africa recognised by these authors.

[The occasion on which I secured my pair was the only time that I saw this Woodpecker. In cry and habits it exactly resembles the common *C. abingdoni*, and except for its smaller size can easily be passed over for that species. Although the two specimens were shot on different days, I have little doubt but that they were a pair, as the male was found in the same tree in which the two birds had been originally observed.]

440. DENDROPICUS CARDINALIS.

Tv. Woodbush, Jan. (1).

440 *a*. DENDROPICUS CARDINALIS HARTLAUBI.

Z. Jususie Valley, Dec. (1); **P.** Coguno, Aug. (3); Masambeti, Nov. (1); Tambarara, Apl., June (2); Tete, Aug., Sept. (2).

As one would naturally expect, the Zululand and Coguno examples are more or less intermediate between the typical form from South Africa and *D. c. hartlaubi* originally described from Zanzibar.

["Squopamiti" of the Zulus.

This little Woodpecker was noted in most of the localities visited in Eastern and East-Central South Africa from Zululand northwards to the Zambesi. It was scarce in Zululand, but became more plentiful the further north I went, being especially so in Portuguese East Africa. It was observed in pairs, or, during the latter end of the breeding-season, in family-parties, and frequented both ordinary bush-veld and denser woods or patches of forest, being more especially noticed searching for food on the dead trees in the native clearings. In cry and habits it is exactly a smaller replica of *C. abingdoni*.

The soft parts are:—

♂. Irides crimson; bill, legs and toes slate-coloured.

♀. Irides reddish brown; bill, legs and toes slate-coloured.

Juv. Irides brown; bill horn-coloured, paler at base of lower mandible; legs and toes pale slate-coloured.]

441. THRIPIAS NAMAQUUS.

Tv. Klein Letaba, Sept. (1); **P.** Coguno, Aug. (1); Beira, Nov., Dec. (2); Tete, Aug., Sept. (3).

[I have found this striking Woodpecker in the North-Eastern Transvaal and in the Inhambane, Beira, Gorongoza, and Tete districts of Portuguese East Africa. Only one pair was observed in the low veld of the North-Eastern Transvaal, where the male was shot, but it was more plentiful in the Portuguese country, especially from Beira to the Zambesi, although nowhere can it be said to be common. It is always found in pairs and has all the habits of the other Woodpeckers, but its larger size compared with the other bush-veld haunting species and its louder and harsher note at once betray its presence; and when once seen and heard, it cannot be mistaken for any other species or be easily overlooked. Like *C. abingdoni* and *D. hartlaubi*, this species has a great partiality for dead trees, especially those left standing in clearings and native gardens.

The soft parts are:—♂ & ♀. Irides crimson; bill, legs and toes dark slate-coloured.]

442. MESOPICUS GRISEOCEPHALUS.

CC. Knysna, Dec., Jan. (7); **Z.** Sibudeni, Nov. (4); **Tv.** Zuurbron, Apl., May (2); Woodbush, Nov. (6).

["Squopamiti" of the Zulus.

This species is strictly a bird of the forest, and does not inhabit ordinary well-timbered country ("bush-veld") as do most of the other Woodpeckers. I noted it as common in the forests of the Knysna, Zululand and Natal, the South-Eastern and North-Eastern Transvaal, but no sign of it appeared in the great virgin forests of Portuguese East Africa, although those of the Gorongoza district seem as well suited to its habits as those further south. It was observed both singly and in pairs, the cry being somewhat loud, but perhaps not so harsh as that of the other Woodpeckers. Although I have seen this bird right through the summer season, I have never succeeded in observing a pair nesting.

The soft parts of both sexes are:—Irides dark crimson; bill, legs and toes slate-coloured. In many specimens the greater part of the lower mandible is pearly white.]

443. Iynx ruficollis.

Tv. Woodbush, May 23, 25 (4).

Mr. Grant's notes strengthen my conclusion (B. S. Afr. iii. p. 143) that this bird is only a winter visitor to South Africa.

[I have not observed this Wryneck elsewhere than in the Woodbush, North-Eastern Transvaal, where I spent some months from April onwards; it was not until the latter end of May that this species put in an appearance, when I secured the only four specimens seen, after which I did not see or hear another. In the early morning these birds could be heard calling from the tops of the trees, but were silent throughout the rest of the day. Whether they were passing through on migration it is impossible to say positively, but the fact that none was seen or heard before or after tends to that conclusion.

The soft parts are:—Irides russet-brown: bill, legs and toes pale whitish green.]

445. Indicator major.

Tv. Legogot, Apl. (1).

[Only at Sibudeni in Zululand, and at Legogot, Eastern Transvaal, where the specimen secured was shot, have I noted this Honey-Guide. The specimen secured was sitting on a thorn-bush, calling quietly to itself; this may have been a sort of song, as the usual note is loud and clear. I have seen so few examples of this species that I have been unable to make any exact observations on its habits.

The soft parts are:—Irides hazel: bill, legs and toes blue-slate-coloured.]

446. INDICATOR VARIEGATUS.

Z. Ngoye Hills, Oct. (1); **Tv.** Legogot, Apl. (1); **P.** Tambarara, July (1).

[I have observed this Honey-Guide in the Knysna, Zululand, and Legogot, Eastern Transvaal, and from the forests of the Gorongoza district. As with the others, I have been extraordinarily unlucky in coming across this species, and it was only in the Eastern Transvaal that I was able in any way to study its habits. What has been said by Sparrmann about the guiding-habits of *I. indicator* is equally true of this bird, and I have myself on several occasions found the nests of bees by its aid. At the Cape the natives say that it is useless to follow a pair, as they are only calling to each other, but that it is the single birds which endeavour to attract attention. I have not been able to prove this conclusively, although it is true that all those which I have followed have been solitary. It does not, however, always happen that the bird takes its follower to honey, as it often brings him to snakes, leopards, and sometimes to game.

The soft parts are:—Irides brown; bill blackish, pale at base of lower mandible; legs and toes pale slate-coloured.]

447. INDICATOR MINOR.

Z. Hluhluwe Stream, Aug. (1); Ngoye Hills, Oct. (1).

[Only on the two occasions when I shot specimens did I find this little Honey-Guide. It appears to be very retiring in habits, and like *I. variegatus* is partial to well-wooded and forest country. I have not recorded its call or other habits, having seen so little of the species.

The soft parts are:—Irides hazel; bill blackish brown, much paler at base of lower mandible; legs and toes slate-coloured.]

449. Lybius torquatus.

N. Illovo, Nov. (2); **Z.** Jususie Valley, Jan. (1); Ngoye Forest and Hills, Sept. (2); **Tv.** Woodbush, May, June (4); Legogot, Apl., May (2); **P.** Masambeti, Nov. (1); Beira, Dec., Feb. (2).

The examples from Beira and Masambeti are distinctly smaller than those from the Transvaal—wing 84–88 against 93–95; and in this respect they approach the East African *L. irroratus*, but they retain the characteristic plumage of *L. torquatus*.

[This Common Barbet was found in Natal and Zululand, northwards and eastwards to the North-Eastern Transvaal and the Beira and Gorongoza Districts. It is usually observed in pairs, and frequents well-timbered country, where its loud resounding cry can be often heard. In the early mornings it is frequently seen sitting on the topmost boughs of the trees, probably enjoying the first warm rays of the sun, uttering at intervals its cry, and bobbing up and down in a funny fashion, opening and shutting the wings each time. Both male and female call. The flight is swift and straight, and generally only from tree to tree unless the bird is greatly alarmed. Its food consists mainly of fruit and berries, for which it visits orchards and gardens, but it also devours a goodly number of insects. I have seen it examining and going in and out of holes of trees, apparently with the idea of nesting, but I have never succeeded in finding the eggs.

The soft parts of the adult are:—Irides red-brown; bill, legs and toes black.

In the young bird the irides are hazel; bill brownish black; legs and toes as in the adult.]

450. Tricholæma leucomelas.

CC. Klipfontein, Apl., July (4).

[Since the Central Cape Colony trip I have only seen this Barbet in Namaqualand, where it was quite common and resident. It is usually found in pairs and feeds principally on berries and fruit, for which it visits gardens and orchards. It does considerable damage to green and ripe fruit, especially figs. It has a loud cry of two or three syllables and is active in habits, often hanging upside down like a Tit when feeding or endeavouring to reach some special food.

The soft parts are:—Irides hazel; bill, legs and toes black.]

452. SMILORHIS LEUCOTIS.

P. Beira, Jan., Feb. (5); Tambarara, June (2).

[Only in the Beira and Gorongoza districts of Portuguese East Africa have I seen this striking Barbet. It cannot be said to be common even there, although several individuals were observed, most of which were secured. I noticed it both in pairs and family-parties, and until I shot them they could be seen every morning sitting on the topmost branches of dead trees after the manner of *Lybius torquatus*. This is a local resident species, keeping to the same ground and frequenting the same trees. The call is loud and different from that of the other Barbets, and the flight is swift and straight, but seldom long sustained. When I reached Beira it had apparently already bred, as young birds assuming the adult feathering were secured in company with the parent birds in February.

The soft parts are:—Irides dark brown; bill, legs and toes black.]

456. BARBATULA EXTONI.

Tv. Woodbush, June (1).

[The specimen sent is the only one that I have ever seen: it was shot pottering about in a Euphorbia. It was both solitary and silent.

The soft parts are:—Irides dark brown; bill, legs and toes black.]

457. BARBATULA BILINEATA.

Z. Ngoye Forest, Sept. (1).

[As in the case of the preceding species, I have only once seen this Barbet. The specimen was noticed creeping about in a thick bush intertwined with brambles. It was solitary and silent.

The soft parts are:—Irides dark brown; bill, legs and toes black.]

458. TRACHYPHONUS CAFER.

Tv. Klein Letaba, Aug., Sept. (4).

[I have only noticed this species in the North-Eastern Transvaal, where it was common in the bush-veld below the Berg, and again in the Gorongoza and Tete districts of Portuguese East Africa, where it was decidedly scarce. In habits it is retiring and, as a rule, frequents thick bush along the dongas and rivers. It has a peculiar loud call and is more often heard than seen.

The soft parts are :—Irides red-brown ; orbits dusky ; bill yellowish green, apical portion pale slate-coloured ; legs and toes dark slate-coloured.]

459. CUCULUS GULARIS.

P. Beira, Jan. 29 (1).

[Several individuals of this species arrived around Beira in company with *C. canorus* in January, but were so wild that they could seldom be approached within shot. They were observed sitting in the larger trees or on the bare topmost branches of dead ones, and had no call.

The soft parts are :—Irides pale dirty yellow ; eyelid yellow ; bill greenish yellow at base, black at tip and ridge of culmen ; gape orange.]

460. CUCULUS CANORUS.

P. Beira, Feb. 13, 16 (2).

One of the birds is immature and shews traces of rufous barring on the back.

[This Cuckoo arrived in company with *C. gularis* in January and remained up to the time I left the Beira district, which was in March. It was indistinguishable from *C. gularis* on the wing and when sitting, and had no call.

The soft parts are :—*Adult.* Irides darkish yellow ; eyelid yellow ; bill at base greenish yellow, black at tip and ridge of culmen ; legs and toes lemon-yellow.

Imm. Irides pale dirty yellow ; eyelid yellow ; bill at base greenish yellow, black at tip and ridge of culmen ; legs and toes lemon-yellow.]

462. CUCULUS SOLITARIUS.

Z. Sibudeni, Nov. 1 (1).

["Piet-myn-vrow" of the Colonists and Dutch; "Pago-m-kono" of the Zulus.

This Cuckoo frequents well-wooded and forested localities, where it is more often heard than seen. It is very shy and retiring, and as it generally keeps within the forest, where it flits backwards and forwards calling all the time, it is a most difficult bird to secure: in fact, only on the occasion when I shot the specimen brought home did I ever see it, although I spent many hours searching for the bird. It is migratory, and I only heard it calling in the first months of the summer season. I have noted it in Zululand (Nov.), the Woodbush Hills (Oct. & Nov. 1905), and at Masambeti (Nov. & Dec. 1906). The call is of three whistles, the last being much lower in tone than the other two, and is audible at a considerable distance; it is on its call that both the Colonial and native names are founded. Owing to its being so shy and retiring I was unable to learn anything about its breeding-habits.

The soft parts are:—Irides brown; orbits bright lemon-yellow; bill, upper mandible dark slate-coloured, lower greenish yellow; legs and toes bright lemon-yellow.]

464. CHRYSOCOCCYX SMARAGDINEUS.

Z. Sibudeni, Dec. 19 ♀, Jan. 21, 23, ♂'s (3); **Tv.** Woodbush, Nov. 23, Dec. 5, 8, ♂'s (3).

["Emerald Cuckoo" of the Colonists; "Libentonyane" of the Zulus.

The Emerald Cuckoo is essentially a bird of the forests, where in the summer season its unmistakable call can be heard. It was heard in the forests of the Nkandhla Range in Zululand and in those of the Woodbush Hills in the North-Eastern Transvaal, while I heard one calling at Storms River, between the Knysna and Port Elizabeth, in Dec. 1904, although when I reached the Knysna none was heard. Its call is a whistle of four distinct notes, the last two being lower than the other two, and can be heard at a considerable distance, the bird sitting among the leafy boughs of some tall tree.

Only the male calls, the female being very retiring in habits and difficult to secure. The colours of this Cuckoo so perfectly match the green of the trees that I have found not a little difficulty in distinguishing it when sitting still, although I have actually located the tree in which the bird is by its call. Each male appears to frequent the same spot day after day and keeps to the part of the forest it has reserved for itself, and never have I heard two calling from the same spot. The female from Zululand was shot at the nest of a Sunbird which was still in course of construction and which she was evidently watching.

The soft parts are :—♂. Irides brown ; eyelid greenish blue ; bill greenish yellow, bluish at gape ; legs and toes blue-slate-coloured, nails black.

♀. Irides brown ; eyelid blue ; base of bill blue, tip black ; legs and toes slate-coloured.]

465. CHRYSOCOCCYX KLAASI.

CC. Durban Rd., Sept. 16 (1) ; **Z.** Umfolosi Station, July 15 (1) ; **P.** Coguno, Aug. 24 (1).

When I prepared the 'Birds of South Africa' I believed that this Cuckoo did not winter in South Africa, but it has since been taken by Taylor at Barberton in June (Bull. B. O. C. xvi. p. 7) and by Ivy in Albany and Davies in Pondoland in the same month, so that it is evidently a resident or partial resident in South Africa throughout the year.

[I have seen Klaas's Cuckoo in the Cape Peninsula, near Umfolosi, and at Coguno. Except at the Cape, where a pair were seen, I have only noted it singly. It frequents the outskirts of patches of bush, and I have found it very shy and retiring in habits. The cry is a single note, generally uttered on the wing.

The soft parts are :—Irides dark brown ; bill pale green ; legs and toes very pale green.]

466. CHRYSOCOCCYX CUPREUS.

Tv. Woodbush, Jan. 3 (1) ; Pietersburg, Mch. 2 & 4 (2).

["Didric" of the Colonists.

I have observed the Golden Cuckoo in the Northern

Transvaal near Pietersburg, and a pair were seen at Masambeti, near Beira, on the 10th Oct., 1906. This species is generally met with in the thorns and bushes along the streams and rivers, and often in the orchards and trees of cultivated gardens. It has a loud cry, which is especially uttered when the birds first arrive and when they chase each other. The flight is swift, but never long sustained.

The soft parts are:—Irides red; eyelid red; bill, upper mandible black, lower fleshy; legs and toes blackish.]

468. Coccystes jacobinus.

P. Beira, Feb. 9 (1).

[Only near Beira have I seen this Cuckoo, where several pairs were noticed creeping about in the rough growths and bamboos on the ant-heaps. It was wild and not easy of approach, and I did not hear it utter any call.

The soft parts are:—Irides dusky black; bill, legs and toes blackish.]

469. Coccystes hypopinarius.

Tv. Woodbush, Dec. 28, 30, Jan. 9, 15 (6).

[Whilst on the North-Eastern Transvaal trip, from April 1905 to March 1906, this Cuckoo made an appearance in October, proclaiming itself by its loud call. It was in pairs, and frequented the thorns and bushes, generally along the spruits and streams. After a few weeks it became silent and retiring in habits, but I could not discover whether it was breeding or not.

The soft parts are:—Irides dusky; bill, legs and toes blackish.]

472. Centropus burchelli.

N. Illovo, Nov. (1); **Z.** Jususie Valley, Dec. (1); Umfolosi Station, July, Aug. (5); **Tv.** Klein Letaba, Aug. (1); **P.** Beira, Nov., Dec. (2).

[This species is common in most localities throughout Eastern and East-Central South Africa. It is perhaps more plentiful to the south than nearer the Zambesi. It frequents thick vegetation and undergrowth, generally along streams and rivers or marshy places. Although almost exclusively a ground bird, it will sometimes perch on branches and in bushes and trees, especially when disturbed. The flight is slow and floppy and seldom long sustained. The call, which is more often heard in wet weather than in dry, and is more frequently uttered in the early morning, is a series of liquid notes running up and down the scale, not easily described, but which cannot be mistaken for that of any other bird. I have never succeeded in locating a nest.

The soft parts are :—Irides red ; bill, legs and toes black.]

476. CENTROPUS SUPERCILIOSUS.

P. Coguno, Aug. (1).

This bird is a female not quite adult, which agrees in every respect with *C. superciliosus*, except that it has a single blue-black feather on the nape which looks as if more were coming and that eventually it would develop into *C. burchelli* ; but *C. superciliosus* undoubtedly does occur in South Africa, though it is by no means so common as *C. burchelli*.

478. CEUTHMOCHARES AUSTRALIS.

P. Beira, Feb. (1).

[I have only on one occasion come across this species and that was in a dense patch of forest within five miles of Beira. It was seen skulking and creeping about in some parasitic plants growing on one of the trees. I do not know its call, and it is a species that might easily be overlooked owing to the dense nature of the country in which it lives.

The soft parts are :—Irides dark crimson ; bill yellow, base of culmen black ; legs and toes black.]

479. TURACUS CORYTHAIX.

CC. Knysna, Dec., Jan., Feb. (26) ; Plettenberg Bay, Mch. (1).

["Lourie" of the Colonists ; "Gwalagwala" of the Zulus.

Curiously enough, I have only taken this Turaco in the Knysna district, and have heard it only in one other locality and that was in the Nkandhla Forest in Zululand, where it was once common but is now distinctly scarce, owing, it is said, to its having been shot out by Cetywayo's hunters; the red feathers of the wings were that king's special perquisite. In the forest of the Knysna district it is very plentiful and is usually seen in flocks of from half a dozen to a dozen, occasionally in pairs. It is a sociable species, and if one is shot from a flock the others, although alarmed at the report of the gun, will soon return and look for their mate, when another can be secured, and so, if one stays long enough, the whole party can be taken. When in the trees it has a creeping action, running along the branches and peering round on the intruder, continually raising and lowering the crest, and gradually working up to the topmost boughs, from which it finally takes flight to another tree; the red primaries are very brilliant when the sun catches them. They are also most inquisitive birds, and I have had them, when I have been quietly lying up for bluebuck or small birds, come jumping and running through the trees within a few feet of me, examining me first from one point and then from another, uttering occasionally their harsh alarm-note and taking flight in a great hurry when I waved my arm. This species feeds almost exclusively on fruit and berries, and the cry is a harsh croaking noise which can be heard at a great distance. It calls generally in the early morning and late afternoon, often all day long when the weather is wet; sometimes not a bird is heard for days together, but this is generally when the weather is fine and warm.

The soft parts of the adult are:—Irides brown; orbits red; bill orange-red; legs and toes black.

In the young the irides are raw sienna, the orbits dusky; bill brown or brownish red; legs and toes black.]

TURACUS CORYTHAIX PHŒBUS.

Neumann, Ornith. Monatsb. 1907, p. 198.

Tv. Woodbush, Nov., Dec. (5).

Neumann has recently shown that the "Louries" of the Eastern Transvaal are separable from those of Cape Colony by the colour of the back and tail, which is of a rich metallic blue without any trace of green. This distinction is quite obvious when the Woodbush Louries are compared with those from Knysna. Neumann's type is an adult male from the Kaap near Barberton in the Transvaal, now in the Liverpool Museum, and he also mentions two examples in the British Museum from the Lydenburg District. Others from Knysna, Elands Post, and King Williamstown in Cape Colony, and from Durban, all specimens in the British Museum, are typical *T. corythaix*.

[" Lourie " of the Transvaal Colonists.

Only in the forest of the Woodbush Hills in the North-Eastern Transvaal have I seen this form of the Knysna Lourie. There it is decidedly plentiful, and in every habit and action it resembles the southern *T. corythaix* and cannot, until handled, be distinguished from that species. The soft parts are also similar.]

480. TURACUS LIVINGSTONII.

P. Tambarara, Mch. (1).

["Nkurukuru" of the Gorongozas.

Livingstone's Turaco much resembles in general habits the common *T. corythaix*. I have found it only in forest country and either singly or in pairs, never in flocks. It was by no means plentiful in the Gorongoza forests, where it frequented the denser parts and was more often heard than seen. The cry is similar to that of *T. corythaix*, but rather harsher. The native name is derived from its alarm-note.

The soft parts are :—Irides brown ; orbits red ; bill red-orange ; legs and toes black.]

TURACUS REICHENOWI.

Reichenow, Vög. Afr. ii. p. 53 ; C. Grant, Bull. B. O. C. xxi. 1908, p. 66.

P. Masambeti, Nov. (1).

This bird, taken for the first time within South African limits, differs from *T. livingstonii* very much in the same way in which *T. c. phœbus* differs from *T. corythaix*, by the pure blue metallic coloration of the lower back, wings, and tail, without any traces of green.

I have not been able to find any examples which exactly match this bird in the British Museum. All the Nyasaland examples, of which there is a long series, seem to be true *T. livingstonii*.

[" Nkurukuru " of the Ntebis.

This species was by no means common, only two or three being observed in the thicker patches of forest near Beira; but whether they were of this form or the ordinary *T. livingstonii* it is quite impossible to say, as in general habits and call it exactly resembles that species. The soft parts are also similar.]

481. GALLIREX PORPHYREOLOPHUS.

N. Illovo, Nov. (2); **Tv.** Legogot, Apl., May (2); **P.** Coguno, Aug. (2); Beira, Feb. (1).

482. GALLIREX PORPHYREOLOPHUS CHLOROCHLAMYS.

P. Tete, Aug. (2).

The Zambesi Purple-crested Lourie apparently replaces the southern typical form only in the Zambesi Valley proper; specimens from Beira are identical with those of Natal.

[" Gwalagwala " of the Natal natives; " Ngulegule " of the Machangaans and Machopees; " Nkurukuru " of the Ntebis.

This species appears to be confined to the low veld of the eastern side of South Africa. I have noted it in Natal, the Eastern Transvaal, and in the Inhambane and Beira districts of Portuguese East Africa. Except in Natal it is not partial to forest, and is usually found in the thicker and denser parts of ordinary " bush-veld " country, where it occurs singly or in pairs, creeping about the trees and brushwood in search of fruit and berries after the manner of the other Louries. The flight is swift and gliding, with little movement of the wings, and the cry is harsh and resonant, deeper than that of *Turacus* and different in tone.

The soft parts are :—Irides very dark brown; eyelid red; bill, legs and toes black.]

483. SCHIZORHIS CONCOLOR.

Tv. Klein Letaba, July, Aug., Sept. (8); **P.** Tete, Aug. (1).

["Go-away" bird of the Colonists; "Nkwenyane" of the Machangaans and Machopees.

I first saw this Lourie in Zululand, north of the Hluhluwe Stream, where I noted it in threes and fours in the thorn-trees, but it was so wary that I was unable to secure specimens. I subsequently met with it in the Eastern and the North-Eastern Transvaal, and in the Inhambane and Tete districts of Portuguese East Africa. It frequents "bush-veld," and I have only once observed it on the high veld proper, and that was on the Pietersburg–Klein Letaba road, where a few were seen in the thorn-trees along the edge of the Berg. It appears to be somewhat local; for instance, it is not found south of the Hluhluwe Stream in Zululand, and in the Inhambane District it is confined to the valleys of the Inyasuni and Yamatemda Rivers, where the country is more or less open, and is not met with either in the Beira or Gorongoza districts of the Portuguese country, although common around Tete. It is usually found in companies of about half a dozen flopping about in the trees, feeding on the berries and fruit or lazily flying from tree to tree. It has a loud drawn-out cry of "kway," sometimes singly, sometimes doubly repeated. Although wary and keeping out of shot as a rule, it is most inquisitive, and will accompany a man for long distances, either on one side or more often in front, perching on the tops of trees and giving vent to its aggravating cry, jerking up the tail and continually raising and depressing its crest. From this habit it has earned a bad reputation among hunters, as it warns the game of the approach of danger, the cry sounding as though the bird was calling to the game to "go away." The natives also attribute this to the bird, and I have seen them strike off in another direction because of its persistence in keeping in touch with them; I have myself blown the bird to pieces with a rifle-ball in pure exasperation.

The soft parts are:—Irides hazel: bill, legs and toes black.]

484. Pœocephalus robustus.

Tv. Zuurbron, Apl., May (2).

["Papegaai" of Colonists.

Only in the Wakkerstroom district of the Transvaal and the Beira and Gorongoza districts of Portuguese East Africa have I noted this Parrot. It is generally observed in pairs or threes and frequents forest country, feeding on the wild fruits and berries. It is wary and not easily approached within shot. The cry is a single loud note often repeated, especially when the birds are passing high overhead from one part of the forest to another.

The soft parts of an adult are:—Irides brown; bill pearly; legs and toes slightly slate-coloured.]

486. Pœocephalus fuscicapillus.

Tv. Klein Letaba, July, Aug., Sept. (6); **P.** Coguno, June (2); Beira, Dec. (3).

Mr. Claude Grant remarks (below) that in one of the Klein Letaba examples and in all three from Beira the axillaries as well as the under wing-coverts are yellow, while in the other examples they are green. As there are signs of green on some of the yellow axillaries, it seems probable that the birds with the yellow axillaries are immature. The male from Klein Letaba (dated Sept. 6) with yellow axillaries is also slightly smaller both in the wing and bill and has the notch of the upper mandible but slightly indicated, all signs of immaturity.

[In the three examples from Beira and one from the Klein Letaba the axillaries are yellow. In the other five specimens from the Klein Letaba and the two from Coguno the axillaries are green. This is probably due to age, as one with yellow axillaries shews distinct traces of the green colouring, and one or two with green axillaries have them tinged with yellow.

It was not till I reached the Klein Letaba country that I came across this species; afterwards I found it in the Inhambane, Beira, and Tete districts of Portuguese East Africa. This little Parrot is generally seen in pairs, often also in small parties of half a dozen. Its flight is very rapid and straight, and the cry is clear and sharp and often repeated, especially when on the wing. It feeds principally on berries and wild fruit, and I have noticed that it drinks regularly, usually about noon.

The soft parts are:—Irides pale yellow; bill, upper mandible blackish, lower pearly; legs and toes slaty.]

[To be continued.]

XXIX.—*On the Birds noticed during a Voyage to Alexandria.*

By Claud B. Ticehurst, M.A., M.R.C.S., M.B.O.U.

In the spring of 1909 I went by a slow passenger-steamer to Alexandria. As there are not a great number of papers dealing with bird-life seen at sea and in the neighbourhood of the ports of call, I think that it may be worth while to put on record the names of such species as I came across, especially as I was on the look out the whole time, and kept careful notes of those that I met with. Short calls of a few hours were made at Gibraltar, Algiers, and Malta, and nearly all the time available at these places was devoted to studying the bird-life of the neighbourhood.

I left Liverpool on April the 13th, 1909, in the s.s. 'Menes.' In the Mersey were noted Lesser Black-backed Gulls and Herring-Gulls, both adult and immature, and some Common Gulls. The next day, as we went down the Welsh coast, Herring-Gulls, Lesser Black-backed Gulls, and Kittiwakes followed the ship the whole day, and these were almost all adult birds; two adult Gannets were also seen. At dusk about a dozen Manx Shearwaters appeared from the *west* flying in towards land. Had these birds come from the Irish coast, or had they been resting on the sea during the day? On the 15th, we were out of sight of land after leaving the Scilly Islands at 3 A.M., and birds were scarce; a few adult and immature Great Black-backed Gulls (*Larus marinus*) and Puffins were all that were seen, except a large Skua in the distance. We were then over one hundred miles from land. The next day, passing through the Bay, we saw only one or two Gannets and some immature Gulls. On the 17th we were running down the Portuguese coast with land never more than fifty miles distant, and Gulls were more numerous; several adult and immature Lesser Black-backs and some adult Yellow-legged Herring-Gulls followed the boat all day. The latter birds were easily identifiable, as when they sailed close over head their yellow legs were conspicuous: an immature Gannet was the only other species seen.

The next day we passed close to Cape St. Vincent, and here a Hoopoe was brought to me which had settled on the ship exhausted. It had nothing in its gizzard and the ovary was slightly enlarged, so the bird must have flown a considerable distance to be so exhausted as not to be able to reach land, only two miles distant; moreover, the weather was calm. Two other birds, which I did not see, settled on the ship during the day, and soon flew to the north, so that even if they had come from the nearest point on the African coast a hundred and fifty to two hundred miles distant, and their point of exit may have been much further off, they were performing a long sea journey instead of crossing the Straits. But it may be that their objectives were the river valleys of the Guadiana and Guadalquivir, up which, perhaps, there are big migration-routes. These records may seem little to base any theory on, but it must be remembered that at sea, as on land, for every bird one observes migrating there are probably hundreds of others on the same course which are not met with. The only other birds seen this day were an immature Great Black-backed Gull and an adult *Puffinus kuhli*.

On the 19th of April we were at Gibraltar, and having all the morning ashore, I started early and walked to the Carboneros hills at the head of the bay near Campamento. The character of the ground here has altered much since Col. Irby's time, and, as all the cork-woods have gone, many birds have gone with them. Round the foot of the hills is a sandy waste covered with coarse grass, and dotted about here and there are small houses and gardens, but very few trees. Here I saw a few Redstarts, Common Wheatears, Wood-Chats, Garden-Warblers, and Crested Larks, while Swallows, House-Martins, and Swifts were numerous. The Sparrow of Gibraltar appeared to be *P. domesticus*. Further up the hillside the ground became broken with big boulders and plentifully covered by gorse and heather, which in places was high. Bird-life was not abundant, but the two commonest species were the Sardinian Warbler (*Sylvia melanocephala*) and the Spectacled Warbler (*Sylvia conspicillata*). Both these birds have pretty warbling songs, and the former in its habits much resembles the Common Whitethroat, as it mounts up into the air and hovers, singing the while; it also has a loud scolding note. Both these species were evidently breeding, and were feeding their young on beetles and other insects. Equally common was the Stonechat (*Pratincola rubicola*), which was also nesting. Compared with our British Stonechat at the same time of year, this bird has much of the grey edgings to the feathers of its back worn off, so that the upper parts look almost black while the under parts are noticeably paler. I saw one or two pairs of Black-throated Chats (*Saxicola occidentalis* of Salvadori), but judging from their organs they were not breeding; a male had all the body-feathers quite fresh, and had evidently not long moulted, while the tail also looked quite new. Other birds which were numerous were Kestrels, Spanish Ravens, and Goldfinches. There were also some Nightingales which evidently had just arrived; they were very shy, skulking, and silent. I witnessed an interesting arrival of Bee-eaters; they came in high up from over the Straits and went on inland to the north, uttering their well-known call-note. Another bird which I saw arrive from Africa was the Eared Chat (*Saxicola caterinæ* of Whitaker). I saw it first as a speck high up over Gibraltar: it gradually came nearer, and finally pitched close to me on a rock; the testes were fairly enlarged and there were the remains of beetles in its gizzard. As regards Vultures, I saw several *Neophron percnopterus*, both adults and young; one was feeding on a carcase in the village of Linnea: Griffon Vultures I also saw, the square tail and extended primaries being very noticeable; on one occasion there were five wheeling round together. In Gibraltar Harbour there were adult *Larus fuscus* and *L. cachinnans*, many immature *L. ridibundus* and *L. melanocephalus*, while I saw one adult of the latter species in full winter plumage and one immature bird with a partial hood. As we left Gibraltar flock after flock of Puffins were steadily passing west through the Straits, evidently a migratory movement, and during the afternoon scattered parties of Swallows kept crossing from the African coast.

On April the 20th, in fine weather, with a light N.E. wind, some Swallows passed the ship, going N. by E.,—we were then seventy miles from the African shore and thirty from Capo de Gata; more passed during the day: the only other birds seen were a few Puffins. On the 21st we put into Algiers, and were about seven hours ashore. Not knowing where to go, I struck out to the country on the west of the town. Here were many gardens and scattered houses, and, further on, village after village with little or no open land except gardens. Swallows, House-Martins, and Nightingales were plentiful; the last in full song. Many other birds were seen, including the following species probably on migration:—Common Redstart, Pied Flycatcher, Blackcap, Willow Wren, Garden Warbler, Lesser Whitethroat, Wryneck, Blue-headed Wagtail. The Algerian Chaffinch was singing; I could not be certain of any difference in song between it and our bird, but the alarm-note seemed quite distinctly weaker and less metallic than that of our bird. The Wagtail was typical *Motacilla flava*; the Linnets looked markedly paler, but the Blue Tits very brilliant and with a dark crown. To any one visiting Algiers, the walk that I took could not be bettered for seeing some of the common birds in a short time, but there are too many people and gardens for collecting.

The next day we skirted along the African coast, which was about six or eight miles distant, but a few adult Gulls (*Larus* *cachinnans*) were the only birds seen. On the 23rd we were off the Bay of Tunis, and during the day I saw an immature Gannet and some young *Larus marinus* and adult *L. cachinnans*. Some small Shearwaters, probably *Puffinus yelkouanus*, were observed about ten miles N.W. of Pantellaria, and in the evening a few Swallows came on board. The following morning we were in Malta, and on visiting the market I found a few birds exposed for sale. Turtle-Doves, Quails, and Golden Orioles (mostly fully adult birds, but some immature) were the most numerous, but there were also a Scops Owl, Cuckoo, Hoopoe, Rock-Thrush (*Monticola saxatilis*), Red-footed Falcon, a Roller, a Short-eared Owl, and a Reeve—a truly mixed bag—which could be bought for threepence a head. Having a few hours to spare, I took a cab to the Marsa and walked up a very rocky valley, on the side of which were innumerable small patches of cultivation surrounded by low stone walls, known as the Wied Zubbug. Even here, the only place near Valetta where one can get away from houses and people, I found bird-life not abundant; but I noted the following birds:—Swallows, House-Martins, Spotted and Pied Flycatchers, Golden Orioles, a Wood-Chat, Turtle-Doves, Spectacled Warblers, Rock-Thrushes, Red-footed Falcons, and the Maltese Sparrow. All the birds were very wild, no doubt owing to native persecution. The Rock-Thrushes were in full song; the song seemed to me rather sweet and soft, more melodious and less monotonous than that of the Song-Thrush and having more "body" than that of a Common Wheatear. The Spectacled Warbler was also uttering a rather pleasing little song, in parts rather like a Common Wren's, but more warbling and varied and not so shrill. I found the nest of this bird where the straggling branches of a crab-tree mingled with those of a hawthorn. It seemed rather big for the size of the bird, and was composed of the dried leaves of some kind of thistle lined with dried grasses, while dotted about in the lining were the tops of a flowering grass which looked like yellowish wool and reminded me of the little bits of wool frequently seen dotted about in the nest of the Common Whitethroat;

I wondered for what purpose these two allied species thus "decorate" their nests. This nest was ready for eggs. The Maltese Sparrow (*Passer domesticus melitensis*) I saw only round houses, and even there it seemed wild, but I remarked that the striping on the flanks was very noticeable. In Floriana long earthenware bottles, with the bottoms knocked out, are put up under the eaves for these birds to nest in.

On the morning of the 25th, when a hundred and eighty-three miles from Malta and from the African coast, we had Turtle-Doves passing across our bows every half-hour or so in twos and threes. None settled, and only one circled round the boat until joined by two or three others, and then went, as did all the others, N. by E. In the afternoon a Blue-head Wagtail came on board, and remained with us until we were off Alexandria—an assisted passage of seven hundred and fifty miles. Later a Meadow-Pipit and some Swallows alighted; the latter went to roost in the saloon.

On skinning the birds I had bought in the Malta market, I found that the Scops Owl had the remains of a lizard and some beetles in the gizzard and that the ovary was not enlarged appreciably; the ovary of the Rock-Thrush was in the same state and the gizzard held the remains of beetles and snails. The Roller had the remains of beetles in its gizzard, the testes slightly enlarged; the Red-footed Falcon had the ovary not enlarged and remains of beetles in the gizzard; the Golden Orioles had the organs slightly enlarged, and some had the remains of green and hairy caterpillars in their gizzards. The last-mentioned birds were fairly fat, the colour of the fat being bright golden. The colour of fat in birds varies somewhat, and perhaps has some correlation with the colour of the plumage. I have once or twice noted that some birds with bright red in the soft parts (*e. g.* adult Oyster-catchers) have the fat distinctly tinged with red.

The next day we were skirting along about sixty miles from the African coast, but the only birds seen were a Swallow and some Mediterranean Shearwaters; these latter were going about in parties of five or six, and their typical flight was well seen. They seemed to fly in segments of large circles and were at their greatest height above the water at the end of the segment: then, with slanting wings, they went down to the surface and so started another flight; when feeding they suddenly put up their wings and dived straight in; then they came up and rested on the surface a moment before resuming their flight.

On the return journey we left Alexandria on May the 19th, but saw no birds till the 21st. When in long. 20° 45′ and a hundred miles from the African coast, two Red-footed Falcons came on board and roosted in the rigging.

On the 23rd we put into Malta for an hour or so, but the only birds in the market were a few Turtle-Doves and a cageful of Short-toed Larks; the coloration of the latter birds varied enormously and no two seemed quite alike, especially about the head. In the harbour were a few *Larus cachinnans*. Off Gozo quite a number of Storm-Petrels followed the wake of the ship and came with us all day—that is, they presumably flew a hundred and twenty miles from their nesting-places. In the evening, when about forty miles equidistant from Pantellaria and the Sicilian coast, some House-Martins came on board and roosted. Some more came on board the next evening. The only other birds seen on the voyage to Gibraltar were a few *Larus cachinnans* and small Shearwaters. Just before we got opposite Gibraltar on the 27th, a Willow-Warbler came on board and, after remaining a few minutes, flew to land east of Gibraltar, making an unnecessarily long journey, as we thought. In the Straits some Puffins were still to be seen, and over the Rock, flying in a wedge-formation to the westward, was a flock of about a hundred and fifty Flamingoes, probably on their way to the Guadalquivir. On the 28th, when off Lisbon, I saw some immature Gannets, and a few more in the Bay of Biscay. Otherwise birds were few until we neared the French coast off Ushant and the Channel, when Kittiwakes, Herring and Lesser Black-backed Gulls, adult and immature, and immature Gannets were met with, and off the Scilly Islands Puffins were seen; off Holy Isle, in addition to the Gulls were Common Terns, Guillemots, Manx Shearwaters, and a Black Tern.

XXX.—*On the Relation of the Spine-tailed Swift* (Chætura caudacuta) *to Weather Conditions in Victoria and Tasmania.*

By H. Stuart Dove, F.Z.S., M.R.A.O.U.

During a stay among the mountains of Northern Tasmania I used to notice that the Spine-tailed Swift usually appeared in connexion with an atmospheric disturbance; and observations since carried out both in Victoria and Tasmania appear to fully confirm my idea that this species finds something attractive in that part of a country where an alteration in the weather is either pending, has just taken place, or is actually in progress. It may be well to state, first, that this fine Swift comes down south from China and Japan, and, after spending the summer months with us, departs again for the north in the autumn. There is great variation in the numbers which annually visit us, for during some seasons scarcely any are seen, while during others, such as the summer recently past (which has, by the way, been a remarkably unsettled one), the Swifts are seen in such numbers as absolutely to force themselves upon our attention.

I have recorded a number of appearances, both during the summer of 1909–10 and that of 1910–11, and will now give these in sequence as they were written down.

During the summer first named, that of 1909–10, which was much more settled than that which has just left us, I was residing in the island State of Tasmania, and saw no Swifts at all until March 4th, 1910, when a solitary specimen was sighted; on the 8th of the same month a small party of the Spine-tails was seen near the beach at West Devonport, North-West Tasmania, where insects were plentiful in the warm humid atmosphere which prevailed after the heavy rains of the previous day and night. Before this, we had enjoyed a long spell of hot weather, during which none of the birds were observed; thus it will be noticed that as soon as a change in the atmosphere occurred the Swifts were quick to respond. Of this party at the coast, some swooped along near the ground, others high up; they often turned obliquely to one side or the other when in flight, sometimes moving the wings, especially when rising to a higher elevation, but often making long sailing flights on motionless pinions, especially when on the downward curve. This Swift does not appear to make any call when in flight; it is a silent bird, except that the "swish" of the long curved wings may be heard when it is near.

On the same day, March 8th, a large party, probably of one hundred or more, came apparently from the north-west and went through graceful circlings and wheelings high up over the wooded hills to the south, where they could be well distinguished against the background of dark grey clouds. Presently another party arrived, apparently also from the north-west, and joined the main body, until the whole upper atmosphere seemed full of the graceful wheelings of these perfect aeronauts. The wind was at this time light from the north-west, but presently shifted to the south, and many of the Swifts came back before it to the beach, and swooped about after their insect prey at varying heights, many quite close to the ground. It should be mentioned that the storm of the previous day and night had been from the south-east, and had threatened us for three or four days before it broke.

The birds were seen on and off until March 12th, none occurring at Devonport after that date up to April 6th, when I left Tasmania for a time.

Lakes Entrance, East Gippsland, Victoria (Australia).

8th Dec. 1910.—A great company of Spine-tailed Swifts appeared this morning for the first time this summer, circling and wheeling at heights varying from just above the gum-trees to practically out of sight in the blue sky; they were first noticed shortly before 9 A.M. and appeared to come from east-north-east, as in the case of the great company of Wood-Swallows (*Artamus tenebrosus*) noted here on the 5th of Sept., 1910, and recorded in the 'Emu' for October 1910, which continued its migration to the west-south-west. On the occasion of this first appearance of the

Swifts the weather was fine and summer-like, and on the 10th and 11th of December more companies arrived, apparently from the same direction: some flew within a few yards of the ground, passing us with a great "swish" of their powerful wings. In a few days the weather changed from calm and summer-like to rough and windy, with heavy showers, while during the week following, *i. e.* Dec. 18th and onwards, we had terrific squalls from the westward. Towards the end of the same month of December two companies of this species were noted before and after stormy weather.

On January 6th, 1911, a party of the same Swifts was observed in the midst of a thunderstorm flying towards the north-east, the wind at the time being north-west.

On February 1st, 1911, while proceeding by launch up the Tambio River, East Gippsland, we noticed many of these Swifts flying backwards and forwards over the river, some at a low elevation; the day was sunny and extremely warm, with a light easterly breeze. Two days afterwards the sky became overcast and we had a gale from the eastward.

8th February.—Large numbers of the Spine-tails were seen high in the air, early in the morning, in fine weather. The next day broke fine, but rain came on during the morning and continued until noon, while on Feb. 10th heavy squalls of wind and rain passed over South-eastern Victoria.

West Devonport, Tasmania.

March 11th, 1911.—Numbers of the Swifts appeared on the 8th, 9th, and 10th of this month during disturbed thundery weather with rain, and during part of the time a high south-east wind. There were great floods again in Victoria and in parts of this island.

March 20th.—The birds again appeared yesterday, when there was rain almost the whole day. They passed in a leisurely way from west to east near the sea and at a considerable elevation.

March 23rd.—Swifts again seen coursing about; soon afterwards rough weather set in.

April 16th.—A perfect morning, with a cloudless sky and a light sea breeze. Spine-tailed Swifts passed over the shore-scrub at a low elevation, making somewhat to the west. I remarked to the friend with whom I was walking, "There are the Swifts, our fine weather will not last long." That very night great cumulus clouds appeared in the eastern sky, drifted gradually overhead, and brought a heavy downpour of rain.

April 15th.—On this day the Swifts were seen migrating, passing to the north-west over the beach, at a height of perhaps sixty or eighty feet; weather cold, showery, squally, wind veering north-west to south-west.

April 27th.—This afternoon the Swifts passed to the north-west in a long straggling party, over the beach and the sea, at a height of perhaps sixty feet; wind south-westerly, strong, cold. This was their last appearance, and the latest date at which I have ever seen them: I believe it constitutes a record for Tasmania, and probably for Australasia.

A reason may now be suggested for these appearances of the Swift in the time of disturbed weather, and it is this. The bird feeds largely upon ants in the winged state, and, indeed, I believe such to be its favourite article of food; the male and female ants having reached the winged state, frequently issue in vast numbers from their nests during those hot muggy days which precede a disturbance, while the so-called "white ants" or termites, very tasty morsels, will often "swarm" while a light warm rain is actually falling. It seems highly probable, therefore, that this Swift appears in numbers in the vicinity of a weather-disturbance because its favourite food is more plentiful and more easily obtained at such times. There may be other conditions of which at present we know nothing, affecting the sudden appearances and disappearances of this most interesting species, but the theory here advanced seems a reasonable one. I hope, however, that other observers of our migratory birds may be induced to give particular attention to the habits of this fine Swift.

XXXI.—*Obituary.*

Mr. A. D. Millar.

It is with much regret that we learn of the death, on May 10th last, of Mr. Alfred Duchesne Millar, who has been a Colonial Member of this Union since 1905. He was born at Durban on July 30th, 1858, the son of the Hon. Mr. J. Millar, member of the Natal Legislative Council. He was educated in Natal, and spent the whole of his life there, never, we believe, having visited England or even Europe.

Millar took up the Law as a profession, and was well-known in Durban, where he practised, as a man of the strictest integrity and a very sound lawyer. For many years he was Vice-President of the Natal Law Society. All his spare time was devoted to sport and natural history. He was an extraordinarily good observer, and it was a most interesting experience to accompany him for a walk in the "bush," when he would recognise and name every bird and insect met with. He was also a very expert taxidermist, and made excellent bird-skins: his collection of insects was a delight to look at, every specimen being most neatly prepared and mounted.

While engaged on the volumes on the 'Birds of South Africa,' the writer of this notice was in constant correspondence with Millar, who helped him with the loan of many rare birds which were not represented in the collection of the South African Museum, and furnished him with numerous notes on the life-histories of the birds of Natal.

Millar published very little under his own name, and I can find only two short papers of his in the Journal of the South African Ornithologists' Union. These are entitled, "Ornithological Notes from Natal," and "On the Nidification of the Striped Kingfisher (*Halcyon chelicuti*)." He took a great deal of interest in the Durban Museum, to which both he and his brother Harold contributed largely. He was a member of the Museum Committee from 1895, and its

President from 1909. It is to be hoped that his valuable collections of Birds' eggs, Birds, and Insects will find a permanent home there.

Millar made many excursions to Zululand, and further north on the East Coast, hunting and collecting, and his house was stored with the spoils taken on these excursions. We are indebted to Mr. E. C. Chubb, the Curator of the Durban Museum, for some newspapers containing an account of his life. Mr. Chubb also informs me that he hopes to be able to acquire for the Durban Museum, Millar's Collection of Birds' Eggs, which consists of about 2500 eggs forming 617 clutches, 74 of the latter belonging to species of which the eggs are at present undescribed.

Millar's early and premature death is a sad loss to South African Ornithology and Entomology, good field-observers being few and far between in that part of the world.

W. L. S.

XXXII.—*Notices of recent Ornithological Publications.*

[Continued from p. 573.]

81. '*Annals of Scottish Natural History.*'

[The Annals of Scottish Natural History. A Quarterly Magazine, with which is incorporated the 'Scottish Naturalist.' April, July, 1911.]

In the first of these numbers the chief interest centres in two species of birds new to the Scottish List, one of which (*Acrocephalus dumetorum*) is also new to Western Europe. It was observed by the Duchess of Bedford on Fair Isle in September 1910, and subsequently secured. The other (*Locustella lanceolata*) has only been recorded twice from Western Europe—in Lincolnshire and on Heligoland; the present example is from the Pentland Skerries.

Mr. R. Clyne reports on the rock-breeding birds of the Butt of Lewis, but has nothing very striking to relate, and Mr. H. B. Watt has four pages of additions and corrections to his former account of the Scottish Heronries; while Mr. J. H. Gurney sends a note on Solamosse (Solway) Geese, as distinguished from Sollemgeese (Gannets). Notices of Northern Bullfinches, Mealy Redpolls, and the continental forms of the Willow-Warbler and Great Spotted Woodpecker are of considerable interest; as are the details of nests of the Snow-Bunting in Aberdeenshire and the Wigeon in Roxburghshire by Mr. Blackwood.

A large part of the July number is devoted to the Report on Scottish Ornithology for 1910 by Misses Rintoul and Baxter, who record the first Scottish examples of the Rock Thrush (Pentland Skerries), the Marsh-Warbler (St. Kilda), the American *Totanus flavipes* (Fair Isle) and *Anthus pennsylvanicus* (St. Kilda), besides the rarer species mentioned in the first paragraph of this notice. *Acanthis exilipes* and *A. holbælli* were also procured, if these forms are to be regarded as certainly distinguishable, while continental forms of the Robin, Gold-crested Wren, and Great Tit were examined and identified.

A separate report is given by the same two ladies to record the Nightingale from the Isle of May (May 9th, 1911); but the same article has also much interesting information on the distribution of birds in the separate faunal areas and notices of such rare species as the Icterine Warbler, Siberian Chiffchaff, and White-spotted Blue-throat. Northern Bullfinches and Hoopoes were unusually abundant. Greenland Falcons occurred in several places, but no reports were received on this occasion of Yellow-browed or Barred Warblers.

82. '*Avicultural Magazine.*'

[Avicultural Magazine. Series 3. Vol. ii. Nos. 8–10 (June–Aug. 1911).]

Three more numbers of our contemporary come to be noticed, and we are particularly pleased with the account of the "display" of the Peacock-Pheasant by Mr. R. I. Pocock, which supplements that of Darwin, while shewing a connexion with the displays of the Argus Pheasant and others of the same Family, and a contrast to those of the Peacock and Turkey. The lateral and frontal positions are both figured.

We find also articles by Mr. D. Seth-Smith on the rare Cinnamon Teal (*Querquedula cyanoptera*, col. pl.), in addition to a continuation of the same author's 'Notes from the Zoological Gardens' and article on Practical Bird-keeping (Parrakeets). The practical keeping of Starlings is discussed by Dr. Butler and that of Hawks and Owls by Mr. Bonhote, who also writes on the Oven-bird and its nest (cuts) in conjunction with Mr. H. D. Astley. Mr. M. J. Nicoll has a paper on Brehm's Hoopoe (cuts), Mr. H. D. Astley writes on the Red-capped Parakeet (col. pl.), and Mr. C. B. Smith on the Rufous-throated Tree-Partridge.

Mr. T. H. Newman gives an account of a second expedition to North-west Africa (Algeria and Tunis) in March and April 1911, and Mr. H. Goodchild discourses on the Water-colour Studies of Bird-life, painted by our fellow-member, Mr. G. E. Lodge, and calls attention to their excellence.

83. *Bartholomew's Zoogeography.*

[Atlas of Zoogeography. A Series of Maps illustrating the Distribution of over Seven Hundred Families, Genera, and Species of existing Animals. Prepared by J. G. Bartholomew, W. Eagle Clarke, and Percy S. Grimshaw, under the Patronage of the Royal Geographical Society. Published at the Edinburgh Institute by John Bartholomew & Co., 1911. One vol., folio, 38 plates.]

Mr. Wallace's great work on the distribution of animal-life over the surface of the globe was published in 1876. Looking at the mass of information that has been accumulated by zoologists on this subject during the last thirty-five years, it was quite time that a new general review of the present state of our knowledge of this important branch of Zoology should be prepared. This has been effected by the publication of the fifth volume of Bartholomew's 'Physical Atlas,' which is entirely devoted to what is quite correctly called "Zoogeography."

It is, of course, the portion of this handsome work assigned to "Birds" that mostly interests us, but, as shown by Mr. Wallace, the Class of Birds is one of the most important factors in the study of Zoological Distribution, as more is known about the exact localities of Birds than is the case with any other Class of animals. Moreover, the primary division of the world's surface into six Zoological Regions, which was put forward by Sclater in 1857 and was adopted by Wallace after close examination, has been entirely employed in the present work. Of the three authors who are credited with its preparation in the titlepage one is well known to us as a distinguished ornithologist, and it is, no doubt, to his intelligent activity that the laborious process of compiling and getting into proper order this enormous mass of information relating to bird-life of the world has been entrusted.

Besides the discussion of the general facts of Distribution more than twelve pages of double columns are devoted to a summary of the principal facts known concerning the structures and ranges of the numerous "Families" into which the Class of Birds is divided. Then follows an excellent "Bibliography," in which the titles of all the previous works relating to the various branches of Zoogeography are given. Not only separate works are included in this useful catalogue, but also the principal articles on the subject contained in periodicals. As the titles of the works and papers are arranged in geographical sections, this List will greatly help those who wish to ascertain what has already been done as regards Distribution in any particular part of the globe.

Lastly, we come to what is perhaps the most important part of the whole work—that is, the Plates. Not including those of a general character, the plates specially relating to "Birds" are nine in number. It is difficult to say much about them without going into details, which would be impossible on the present occasion. But the plates may be stated to be, on the whole, very satisfactory—certainly far better than anything that has yet been published on this extremely complicated subject. On the whole, ornithologists may be well content with the information on their particular branch of "Zoogeography" collected in the present work, and must thank the enterprising publishers who have brought it out in such first-rate style, as also the authors who have compiled it.

84. *Beetham on the Practical Photography of Birds.*

[Photography for Bird-Lovers. A Practical Guide. By Bentley Beetham. London, 1911. Pp. 1–126, 18 pls.]

This book is a most useful compendium for Ornithologists who use the camera. It presupposes a certain amount of knowledge of photographic technique, but gives full instructions of the methods to be used in approaching birds and in securing their pictures under all circumstances. The nests and their contents are also taken into consideration, and there is an interesting chapter on Rope-work. In fact, all the information that a beginner requires, or an expert needs to recall, is here given in a compact form, accompanied by some excellent specimens of the photographic art. The author tells us that concealment is usually necessary in the case of wild birds, as we should naturally have expected, but he also discusses pictures of captive specimens and dead birds.

85. *A. H. Evans on the Fauna of the Tweed Area.*

[A Vertebrate Fauna of Scotland, edited by J. A. Harvie-Brown. The Tweed Area including the Farne Islands, by A. H. Evans. Edinburgh: David Douglas, 1911. Sm. 4to; pp. i–xxviii, 1–262, 29 illustr. and map.]

With the present volume—the eleventh—the important "Vertebrate Fauna of Scotland" series may be said to have entered its final stage. Hitherto the areas dealt with have all been north of "Forth" and "Clyde," their *locus* being consequently in the Highlands (or, at any rate, partly so) and the islands beyond. The volume now issued, treating as it does of a district in the Lowlands, and that a "Border" one, has therefore aspects of special interest attaching to it. So-called natural areas do not, as a rule, coincide with political ones, and it need excite no surprise to find a substantial part of Northumberland, on the English side of the Border, included within the purview of this volume, the title of the series notwithstanding. Briefly stated, the Tweed Area, as therein defined, comprises practically the whole of the counties of Berwick, Roxburgh, Selkirk, and Peebles, with small outlying portions of Haddington and Midlothian in the north, and a goodly slice of Northumberland, with the Farne Islands, in the south. The invasion of English soil is not great, and on a broad view of the matter seems quite justifiable: undoubtedly it gives a finish to the survey, and adds much to its interest. At the same time it is a point that will have to be borne in mind in any comparison of the fauna of South Scotland with other sections of the country.

The author being a native of the district, born and brought up at Scremerston near Berwick-on-Tweed, and, though latterly non-resident, always in close touch with it and its naturalists, and possessing at the same time other essential qualifications for the task, it was but fitting that the Tweed volume should have fallen to the lot of Mr. A. H. Evans. That the result is one of the best "Faunas" of the series goes without saying. A feature is the exhaustive manner in which the voluminous literature has evidently been ransacked, and the careful citation of the records. Certainly Mr. Evans's fellow-workers in the district have no cause to complain of his treatment of them. But while generously fair in his recognition of the work of others, it is a question whether by the studied avoidance of the first personal pronoun he has been equally fair to himself.

Following an Introduction of fourteen pages, in which short biographical notices of deceased Border naturalists and a Bibliography—which, by the way, does not include the author's own paper on the Birds of the Melrose District, published in the 'Scottish Naturalist' for 1891—are given, there comes a clear and orderly description, in twenty-five pages, of the "physical features" of the area, section by section, from the faunistic point of view. The district, it may here be remarked, is regarded as occupying a distinctly intermediate faunal position between the North and the South of Great Britain. From this chapter we pass to the main part of the book, namely, the systematic account of the Vertebrates (excluding the Fishes) that have been recorded from the area. The Class Aves, with which alone we are here concerned, is represented by 255 species (exclusive of a few "doubtfuls" in square brackets), the known facts concerning each as a member of the local avifauna being well stated in the usual short articles allowed for in the plan of the series. In addition to the strictly local records, the author has not hesitated to refer to occurrences beyond the prescribed limits when it was thought that light was thereby thrown on the species as a "Tweed" bird. As examples of the application of this broadening of the outlook, the articles on the Waxwing, Pied Flycatcher, and Stock-Dove may be cited. The Wood-Sandpiper, we are told, is a "rare summer visitor, which arrives early in May and leaves in August or September," surely too high an estimate of its status, at the present day at any rate*. With regard to the Classification and Nomenclature of the Birds, Mr. Evans has not thought it wise to alter them from those used in previous volumes of the series, a course which, though departed from in the case of the Mammals, may in the circumstances be expected to commend itself to all but a few extremists. One alteration, however, has crept in: for *Parus palustris* has been substituted *Parus dresseri*, a doubtful improvement, seeing that the only form of "Marsh" Tit proved to occur in the area is stated to be the so-called British Willow-Tit. It does not appear that the lighthouses on St. Abb's Head and the Farne Islands have yet been utilised to any great extent in the detection of rare Passeres on migration; when they are, some interesting additions to the local list may be anticipated.

The volume, like its predecessors, is handsomely got up and illustrated, though in the matter of reproduction some of the plates are perhaps a little disappointing. In the choice of localities for illustration the chief consideration has rightly been their connexion past or present with interesting species. A wide range of subjects is thus depicted. Peeblesshire, however, is unrepresented.

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* [Mr. W. Evans desires it to be made known that the statement in the footnote on p. 210 of the "Tweed" vol. regarding the Wood-Sandpiper has been attributed to him through some misunderstanding.—EDD.]

86. *W. Evans on the Mealy Redpolls.*

[Notes on the recent Immigration of Mealy Redpolls (*Acanthis linaria*), including the Form known as Holböll's Redpoll. By W. Evans. Proc. Roy. Phys. Soc. Edinb. xviii. pp. 196–203, and reprint.]

The author here records former immigrations of the Mealy Redpoll, and gives full details of that of 1910, perhaps the greatest ever known. He doubts whether Holböll's Redpoll is worthy of even subspecific rank, as the measurements of bill and wing vary to a great extent, and those who uphold it as a subspecies rely on its larger size, and especially on the size of the bill. Many measurements are given, which would shew that a large number of the birds captured in Scotland would come under the form *holboelli*, if it is accepted. One of the largest examples, taken near Dunbar, was so named by Dr. Hartert.

87. *Faxon on Brewster's Warbler.*

[Brewster's Warbler. By Walter Faxon. Mem. Mus. Comp. Zool. vol. xii. No. 2. Cambridge, U.S.A., 1911.]

This instructive memoir discusses, at full length, the singular case of Brewster's Warbler—a most distinct bird in general appearance, but allied in some mysterious way to two other species, *Helminthophila pinus* and *H. chrysoptera*. After relating his personal experiences with this curious creature, Mr. Faxon gives us an account of the very conflicting opinions on it that have been held by the American naturalists. Some say that it is a good species, others that it is a hybrid. Mr. Faxon "sees no objection" to the hypothesis that it is a hybrid between the two species above named.

88. *Gyldenstolpe on Birds from Russian Turkestan.*

[Short Notes on a Collection of Birds from Russian Turkestan. By Nils Gyldenstolpe. Arch. f. Zool., Band 7, No. 14. Upsala, 1911.]

The author describes and gives notes on a small collection of birds from the Semirjetschensk district of Russian Turkestan. The species are mostly typical Central Asiatic, but there are also some widely spread Palæarctic species and a few migratory forms from the south. There are 69 forms represented—mostly provided with three names and the authority, which makes four names in all. This is an interesting paper for students of the Palæarctic Ornis, as almost the only previous information on the subject was Dr. Schalow's essay on the birds procured by Merzbacher in the district of Thian-Shan (see 'Ibis,' 1909, p. 181). Rarer species enumerated are *Nucifraga caryocatactes rothschildi*, *Acanthis cannabina merzbacheri*, and *Ibidorhynchus struthersi*.

89. *Hamilton's List of the Birds of New Zealand.*

[Hand-list of the Birds inhabiting New Zealand, and those from other Countries that have been observed in New Zealand as Occasional Visitors. Dominion Museum, Wellington, 1909; 19 pp.]

Buller's supplement to his 'Birds of New Zealand' was published in 1905. Since then no full list of the Birds of New Zealand and its adjacent islands has been issued. In the present List, prepared by Mr. A. Hamilton, the Director of the Dominion Museum at Wellington, the scientific and vernacular names of the species known to the author as having occurred in New Zealand are given, classified and arranged according to Sharpe's 'Hand-list.' They are 257 in number. Appended are the names of the birds obtained by Lord Ranfurly from the Cook Islands and Nice or Savage Island; also a list of the introduced species.

90. '*Irish Naturalist.*'

[The Irish Naturalist. Vol. xix. Nos. 9–12; Vol. xx. Nos. 1–8; Dublin. (Sept. 1910–Aug. 1911).]

In vol. xix. No. 9, we have an account of the sixth Conference of the Irish Field Club Union, at Rosapenna in Donegal, in which Mr. R. J. Ussher writes on the birds, and reports that five humeri of the Great Auk were found, in addition to those originally discovered there (pl. 10). In No. 10, Mr. A. Williams records many Sanderlings from Dublin Bay and elsewhere, observed during the month of July in various years. In Nos. 11, 12, Mr. R. M. Barrington gives details of the second and third examples of the Red-backed Shrike known to have occurred in Ireland,

and of the first Shore-Lark. In vol. xx. No. 1, we have a report from the same pen of the abundance of Black Redstarts on migration in 1910, and a notice of an American Blue-winged Teal shot in County Cork (which may have been an escaped bird) by Mr. A. R. Nicols. In No. 3 the last-named discusses the Irish forms of the Dipper, Jay, and Coal Titmouse, which have been recently distinguished from the typical species, and in No. 4 Mr. Barrington writes on the third of these forms. In No. 5 Mr. W. J. Williams records the first Nuthatch for Ireland (commented on by Mr. C. B. Moffat on p. 115), and in No. 6 Mr. Barrington has a very important article (with a map) on the Great rush of Birds on the night of March 29th–30th in Ireland. In No. 7 Miss Dobbs and Mr. Moffat write on "Luminous Birds" and, finally, in No. 8 Mr. Ussher tells us that he has discovered a breeding colony of the Fulmar Petrel on the west coast of Ireland (in Mayo). Of this discovery details are given in No. 9, where a second locality for Ireland is also mentioned, and extra notes are added by Mr. Barrington.

91. *Kloss on Malayan Birds.*

A recently issued number of the 'Journal of the Federated Malay States Museums' (vol. iv. no. 2) contains two short papers relating to Birds by Mr. C. Boden Kloss, the Curator of the Perak State Museum. In the first of these a list is given of the birds of the "district of Trengganu," which is stated to have "received very little attention from zoologists." Seventy-nine species are named, besides others "observed." In the second paper, the Mammals and Birds of the low lands of the State of Pahang are enumerated—the species of birds are 135. Two specimens of the rare Banded Kingfisher (*Alcedo euryzona*) are the first that have been taken in the Federated Malay States for many years, while the unstable state of *Mesobucco duvauceli*, the commonness of *Munia leucogastra*, and the fact that *Setaria affinis* occurs in an area where another closely allied form was thought to have replaced it, are other pieces of news that call for comment.

92. *Madarász on new Birds from Africa.*

[Neue Vögel aus Afrika, beschrieben von Dr. J. v. Madarász. Ann. Mus. Nat. Hungar., 1911.]

The new species described are *Upupa butleri*, *Riparia nigricans*, *Cisticola sudanica*, *Passer alexandrinus*, *P. nikersoni*, and *P. albiventris*. It is certainly curious to discover a new Sparrow at Alexandria, especially if, as is stated, *Passer domesticus* also occurs in the same district.

93. *Madarász on Two Humming-birds.*

[Ueber *Thalurania venusta* (Gould) und *Colibri cabanidis* (Heine) als selbständige Formen. Von Dr. J. v. Madarász. Ann. Mus. Nat. Hungar., 1911.]

The author is of opinion that *Thalurania venusta* (Gould) of Central America has been incorrectly united to *T. columbica* (Bourc.) of Colombia and Venezuela, and that the two species are quite distinct. He also maintains that *Colibri cabanidis* of Costa Rica ought not to be united with *C. cyanotis* of Colombia and Venezuela.

94. *Mathews on Alterations in the Nomenclature of Birds.*

[On some necessary Alterations in the Nomenclature of Birds, Part II. By Gregory M. Mathews. Nov. Zool. xvii. p. 503.]

This is a continuation and completion of the author's previous article on the same subject, which we have already noticed (above, p. 392); it contains large additions to the list of proposed changes in the nomenclature of birds. Mr. Mathews gives us no less than 22 pages of them and the explanatory remarks. It seems to us to be a mistake to insist on these changes unless the retention of the generally adopted names is likely to cause confusion.

Mr. Mathews is ready to adopt "Brisson's" names, but rejects those of "Gronow," while he gives some important information with regard to the dates of certain works of Lesson, Swainson, Cuvier, and Vieillot.

The following new generic terms are proposed by Mr. Mathews:—

Irediparra to replace *Hydralector* of Wagler, which is, according to Mr. Mathews's views, an "absolute synonym of *Metopidius*."

Eutelipsitta, to replace *Psitteuteles*, which is stated to be equivalent to *Ptilosclera*.

Alisterus, to replace *Aprosmictus* of Gould, 1842, which is considered to be properly equivalent to *Ptistes*.

Grantiella, to replace *Entomophila* of Gould, preoccupied by Horsfield (1824). After considerable debate *Rallina* is reinstated for *Euryzona*.

The new specific name *ceciliæ* is proposed for *Platycercus splendidus* Gould (1845), nec Shaw (1792); *Psephotus multicolor* (Kuhl, nec Gmelin) is to be called *P. dulciei*; and *Corvus australis* Gould is to be changed to *C. marianæ*, not being the same as *C. australis* of preceding authors.

Finally, Mr. Mathews wishes to shift the familiar name *Saxicola* from the Wheatears to the Chats, and to call the Wheatears *Œnanthe*. To this proposal we most decidedly object, as it would cause endless confusion, and is, in our opinion, quite unnecessary. We cannot agree with Mr. Mathews's reasoning on this subject. *Motacilla œnanthe* was one of the three birds included in his genus *Saxicola* by Bechstein in 1802, and that name has been almost universally applied to the Wheatears ever since that period.

95. *Mathews on the Birds of Australia.*

[The Birds of Australia. By Gregory M. Mathews. Vol. i. pt. 4. London, 1911. 4to, pp. 185–234, pls. 46–58.]

The fourth part of this work contains the continuation of the Family Rallidæ, with the genera *Rallus, Eulabeornis, Crex, Porzana, Tribonyx*, and *Gallinula* (pt.). The habits of Rails are comparatively little known, and therefore we heartily welcome the excellent notes which we find here, especially those on *Rallus pectoralis*, the two interesting species of *Tribonyx*, and *Eulabeornis castaneiventris*. The full life-history of the last of these species is now brought to light by Mr. J. P. Rogers, collecting for Mr. Mathews.

The author draws attention to the fact that *Rallus featherstoni* of Buller from New Zealand was at once pronounced by Hutton to be the British Land-Rail, and that a specimen has since been procured in Australia; he has also unearthed Temminck's original description of *Rallus pectoralis*, which specific name takes precedence of *R. brachypus* of Swainson. Neither of these facts appears in the 'Catalogue of Birds in the British Museum' (vol. xxiii.). Moreover, the discovery that the form from Western Australia should be separated as *R. p. clelandi* has led Mr. Mathews to the conclusion that the bird should be placed in the genus *Rallus* and not *Hypotænidia*. This has necessitated the cancelling of pp. 183–4.

The genera *Poliolimnas* and *Microtribonyx* of Sharpe are given up, while *Amaurornis* is no longer separated from *Gallinula*—all decided changes for the better, as the characteristics are not truly generic.

Eulabeornis (*Hypotænidia*) *philippensis* is now divided into no less than twelve subspecies, of which seven are new; other new subspecies proposed by Mr. Mathews are *E. tricolor robinsoni* and *E. tricolor grayi*, while *Porzana palustris* and *P. plumbea* are to stand as *P. pusilla palustris* and *P. plumbea immaculata*. Reference should also be made to the preceding Notice (Ibis, 1911, p. 570).

96. *Mathews on Two new Australian Birds.*

[Two new Australian Birds. By Gregory M. Mathews. Nov. Zool. xviii. p. 22.]

The new birds described are subspecies, *Geryone albigularis rogersi* from Derby, N.W. Australia, and *Alisterus cyanopygius minor* from Cairns, North Queensland. The eggs of the former and of *Poëphila personata belcheri* are described.

97. *Mearns on Ten new African Birds.*

[Descriptions of Ten new African Birds. By Edgar A. Mearns, U.S. Nat. Mus. Smiths. Miscell. Collect. vol lvi. No. 14. Washington, U.S.A., 1911.]

The following species and subspecies of Birds are described as part of the results of the "Smithsonian African Expedition under the Direction of Colonel Theodore Roosevelt." We have already noticed Col. Roosevelt's interesting narrative of his expedition (see above, p. 394), and are glad to find that it has been so successful as regards birds, although its principal object, we believe, was to obtain specimens of the larger Mammals of Africa before their approaching extermination.

The species and subspecies of birds now described as new are *Francolinus schuetti maranensis* (Kilimanjaro); *F. s. kapitensis* (Athi plains); *F. s. keniensis* (Mt. Kenia); *Nectarinia johnstoni idia* (Mt. Kenia); *Cinnyris mediocris keniensis* (Mt. Kenia); *Cyanomitra changamwensis* (Mombasa); *Anthreptes collaris elachior* (near Mombasa); *Pseudonigrita arnaudi kapitensis* (Kapiti Plains); *Lagonosticta incerta* (Gondokoro, White Nile); *Sporopipes frontalis abyssinicus* (Abyssinia).

We think that it would have been better to have sent Dr. Mearns to the British Museum to examine the specimens there before describing these supposed novelties.

98. *Mearns on Fifteen new African Birds.*

[Descriptions of Fifteen new African Birds. By Edgar A. Mearns, U.S. Nat. Mus. Smiths. Miscell. Collect. vol. lvi. No. 20. Washington, U.S.A., 1911.]

Ten of the forms described in the present paper are products of Col. Roosevelt's expedition to East Africa. The species and subspecies now described are *Pternistes leucoscepus keniensis*; *P. l. kilimensis*; *Francolinus grisescens* (Uganda); *F. granti delutescens* (Kenia); *F. schuetti zappeyi* (East coast of Lake Victoria); *Ptilopachus fuscus keniensis* (Kenia); *Turnix sylvatica alleni* (Kenia); *Xanthophilus bojeri alleni* (coast of B.E.A.); *Uræginthus bengalus brunneogularis* (N.W. of Kenia); *Pycnonotus layardi fayi* (B.E.A.); *P. l.*

peasei (Kapiti Plains); *P. l. phæocephalus* (Uganda); *Pogonocichla cucullata keniensis*; *Eminia lepida hypochlora* (B.E.A.); *Sylvietta whytii loringi* (Fort Hall, B.E.A.).

We may remark that the results arrived at by Mr. F. J. Jackson, who has lately studied the Francolins of B.E. Africa and Uganda (see above, p. 569), do not seem to coincide with those of Dr. Mearns.

99. *Oberholser on the Forms of the Ladder-backed Woodpecker.*

[A Revision of the Forms of the Ladder-backed Woodpecker (*Dryobates scalaris*). By H. C. Oberholser. Pr. U.S. Nat. Mus. xli. p. 139 (1911).]

Having compared a large series of specimens from various American Museums, Mr. Oberholser divides the Woodpeckers of the genus *Dryobates* allied to *D. scalaris* into subspecies. The six generally recognised forms of this group are thus increased to fifteen, and nine are described as "new subspecies." An outline map illustrates the distribution of the group from Texas to Honduras.

100. *Pycraft on the Skeleton of* Palæocorax.

[On the Skeleton of *Palæocorax moriorum*. By W. P. Pycraft, M.B.O.U. Nov. Zool. xviii. p. 122.]

Remains of this extinct bird were discovered by Dr. H. O. Forbes in Chatham Island (see 'Nature,' xlvi. p. 252). Mr. Pycraft gives us an excellent description of its bones, accompanied by a figure of its cranium. Though the skull agrees very closely with that of the Raven (*Corvus corax*) it differs from it in one or two noteworthy particulars. Mr. Pycraft is doubtful whether this form ought to be considered as generically distinct from *Corvus*, but is certain that it has no generic connection with *Gymnorhina*.

101. *Reichenow on Birds from Spanish Guinea.*

[Ueber eine Vogelsammlung vom Rio Benito im Spanischen Guinea. Von Anton Reichenow. Mitth. Zool. Mus. in Berlin, Band v. Heft 1. Berlin, 1910.]

From the territory called "Spanish Guinea," south of the

German Colony of Cameroon, Herr Tessman, of Lubeck, brought back in 1909 a collection of birds which contains examples of 194 species. The forms, as might have been expected, are mostly those of Cameroon, but five are regarded as new by Dr. Reichenow, and are named *Theristicus brevirostris*, *Aplopelia* (scr. *Haplopelia*) *tessmanni*, *Psalidoprocne tessmanni*, *Pedilorhynchus tessmanni*, and *Bradornis sylvia*. The types have been placed in the Berlin Museum.

102. *Reichenow on the Birds of Cameroon.*

[Die ornithologischen Sammlungen der Zoologisch-Botanischen Kamerun-Expedition, 1908 und 1909. Mit einer Uebersicht aller bis jetzt aus Kamerun bekannten Vogelarten. Von Ant. Reichenow. Mittheil. Zool. Mus. Berlin, Band v. Heft 2. 1911.]

In the years 1908–9, the Imperial Colonial Office of Germany sent out a Zoological and Botanical Expedition to the Protectorate of Cameroon on the western coast of Africa. The collectors were Herr Riggenbach and Herr Hauptmann Strümpell, who brought back about 1000 bird-skins. These are referred by Dr. Reichenow to 305 species, of which 34, new to science, have been already characterized by Dr. Reichenow in the 'Ornithologische Monatsberichte.'

A list is now given of the species and the exact localities in which they were obtained, with a few notes. The localities are further indicated by an outline map, which gives the routes followed by the expedition.

Appended is a list of all the species of birds that are as yet known to occur in the Protectorate of Cameroon, with their localities, altogether 670 in number.

103. *Reichenow on the Birds of the Mid-African Lake District.*

[Die Vogelfauna des Mittelafricanischen Seengebietes. Auf Grund der Sammlungen Seiner Hoheit des Herzogs Adolf Friedrich zu Mecklenburg bearbeitet von Prof. Dr. Anton Reichenow. Berlin, 1911.]

We have already called attention ('Ibis,' 1908, p. 199) to the large and important collections of Natural History made by the Duke Adolf Frederick of Mecklenburg and his assistants during his hunting and scientific Expedition to Central Africa in 1897–8. The results are now being gradually worked out by different savants, and the birds have been naturally assigned to Dr. Reichenow, who has kindly furnished us with a copy of his report on this subject. To make his memoir more complete, Dr. Reichenow has included in it notices of other recent work in the same district of Africa, which he calls the "Mid-African Lake-district," and of which he gives us a useful outline-map.

The Mid-African Lake-district, he tells us, is specially rich in bird-life. At present we know of 750 species from this country—that is, about one-fourth of all the known species of the Ethiopian Region, which is estimated to contain about 3000 species. This richness in species comes from the central position of the Province. West Africa supplies the greater portion of them, as out of 750 species about 130 may be classed as West-African forms. Typical East-African forms are about 100 in number, and 70 extend over East and South Africa, while about 100 of them are generally spread over the whole Ethiopian Region. The European-Asiatic migrants that are known to occur in the Lake-district are about 50 in number.

The author proceeds to record the species of the Lake-district according to the nomenclature and arrangement of his 'Vögel-Afrikas,' and adds many good notes. Coloured figures are given of *Scoptelus adolphi-frederici, Malaconotus adolphi-frederici, Cinnyris schubotzi, Pyromelana leuconota,* and *Bradypterus milbreadi.*

104. *Snethlage on the Avifauna of the Amazonian Campos.*

[Sobre a distribuçao da Avifauna campestre na Amazonia. Por E. Snethlage. Bull. Mus. Goeldi, vi. p. 226 (1910).]

This is an interesting essay to those who are studying geographical distribution. The author, who is one of the officials of the Museum Goeldi at Para, and is very well acquainted with the birds of Lower Amazonia, shews, or attempts to shew, that the birds of the *campos* of that district (that is, of the treeless spaces, surrounded by forest, which are frequently found there) are quite different from the birds of the adjoining forest, and belong to genera, and, in many cases, even to species, which are of wide distribution in other parts of the South-American continent. Madame Snethlage gives a list of more than forty species belonging to the Avifauna of the campos of Amazonia in which this is the case.

105. *Winge on the Birds captured at the Danish Lighthouses.*

[Fuglene ved de danske Fyr i 1910. 28de Aarsbiretning om danske Fugle. Ved Herluf Winge. Vid. Meddel. fr. d. naturh. Foren. i Kobenhavn, 1911.]

Dr. Winge sends us a copy of the 28th report on the birds taken or observed on the Danish Lighthouses in 1910 *. Thirty-one of the Lighthouses sent their specimens to the Zoological Museum at Copenhagen. These were altogether 1307 in number, and are referred by Dr. Winge to 77 species, of which a list is given. The Sky-Lark (*Alauda arvensis*) and the Starling (*Sturnus vulgaris*) appear to have been among the most numerous victims, though the Song-Thrush (*Turdus musicus*) and Redwing (*T. iliacus*) were likewise abundant, as in former years. Of Robins (*Erithacus rubecula*) 62 were sent in, but more were captured. Numerous notes about the various localities, a separate account of the birds met with at each Lighthouse, and the dates of their occurrences are given. Only one *Muscicapa grisola* was met with, while 66 examples of *M. atricapilla* were registered—the latter, we believe, being by far the commoner species in Scandinavia.

We venture to suggest to the Migration Committee of the B.O.U. that a somewhat similar report on the occurrences of the nocturnal visitors to St. Catherine's Lighthouse in the Isle of Wight might be of interest.

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* See above, p. 182, for a notice of the last Report.

XXXIII.—*Letters, Extracts, and Notes.*

We have received the following letter addressed "To the Editors of 'The Ibis'":—

Sirs,—With reference to Mr. D. A. Bannerman's notes on *Pytelia nitidula* ('Ibis,' 1910, p. 681), it may interest him, and other readers of the Journal, to know that there is a pair of that species in this Museum, obtained recently by Mr. H. M. Millar on the outskirts of the town. They are well mounted and in good plumage.

On comparing them with the plate and descriptions given by Mr. Bannerman based upon British East African examples, they appear to differ in the following respects:—

Male. The chest is olive-green, only a little lighter than the back, and without the wash of scarlet, or orange as it appears in the figure. The upper tail-coverts are of a more golden olive than the back, but they are not cinnamon-brown as depicted in the plate. Dimensions:—Total length 4 inches, wing 2, tail 1·4, tarsus ·6.

Female. The chest is pale olive-green with a scarcely perceptible suffusion of buff, very different from that of the female as shown in the plate. Dimensions:—Total length 4 inches, wing 2, tail 1·2, tarsus ·6.

From these facts it would appear that the northern form of this bird can hardly be considered identical with *P. nitidula*, if Durban examples are taken as typical of the latter.

I am, Sirs, yours &c.,
E. C. Chubb.

Durban Museum, Natal,
22nd July, 1911.

Report on the British Museum, 1911.—The usual "Return" to Parliament of the British Museum for 1910 states that the acquisition in the Class "Aves" in that year amounted to 9377 specimens. Of these the most noteworthy were as follows:—

Six Harlequin Ducks (*Cosmonetta histrionica*) in eclipse plumage: 16 birds from Co. Sligo, Ireland, including the type of the newly-described Irish Coal Tit (*Parus hibernicus*), *presented by Mr. Collingwood Ingram*: the first British-killed specimen of the Carolina Crake (*Porzana carolina*), *presented by Mr. H. S. W. Eyre*: 676 birds from South China, received in exchange from Lt.-Commander R. E. Vaughan, R.N.: 108 birds from South China, *presented by Staff-Surgeon C. E. C. Stanford, R.N.*: 166 birds from Formosa, *presented by Mr. A. E. Wileman*: 4 birds from Formosa, including the type of a new species (*Nucifraga owstoni*), *presented by Mr. Collingwood Ingram*: 61 birds from the N.-W. Provinces of India, *presented by Capt. C. H. T. Whitehead*: 162 Kalij Pheasants from Burma, including examples of six species new to the Collection, and seven type-specimens (*Oates Collection*): 4 birds from Upper Burmah, including the types of three new subspecies, *presented by Major H. H. Harington*: 141 birds from Annam, including the type of a new species of Pigeon (*Crocopus annamensis*), collected by Dr. J. J. Vassal: 115 birds from Borneo, *presented by the British Ornithologists' Union*: 4 birds, including two specimens of a Chaffinch (*Fringilla polatzeki*) new to the Collection, from Grand Canary, *presented by Mr. D. A. Bannerman*: a Whale-headed Stork (*Balæniceps rex*) from the Bahr-el-Ghazal, *presented by Lieut.-General Sir Francis Wingate, K.C.B.*: 45 birds from Somaliland and South Abyssinia, *presented by Dr. R. E. Drake-Brockman*: 429 birds from British East Africa, collected by Mr. Robin Kemp, *presented by Mr. C. D. Rudd*: 219 birds from various localities in British East Africa, *presented by Mr. S. L. Hinde*: 283 birds from the Mabira Forest, British East Africa, *presented by Mr. L. M. Seth-Smith*: the type-specimens of *Stiphrornis mabiræ*, *Alethe kikuyuensis*, and of five other species recently described, from British East Africa, *presented by Mr. F. J. Jackson*: 159 birds and 3 eggs from Lake Ngami, collected by Mr. R. B. Woosman and the Hon. Gerald Legge, *presented by the subscribers to the Lake Ngami Expedition Fund*: 1316 birds, nests, and eggs from Angola, Portuguese Guinea, and the Cape Verde Islands, including an example of one species (*Dryoscopus turati*), new to the collection, and the type of a new species of Weaver-bird (*Ortygospiza ansorgei*), obtained by Dr. W. J. Ansorge: 29 birds from Nigeria, *presented by Mr. P. A. Talbot*: a Darwin's Rhea (*Rhea darwini*) from the Woburn Aviaries, *presented by His Grace the Duke of Bedford, K.G.*: 150 birds collected in Guatemala by Mr. G. C. Shortridge, *presented by the Zoological Society of London*: 95 birds collected on the Rio Paraguay, *presented by Mr. Geoffrey W. Tudor*: 647 birds, 602 eggs, and 40 nests from Buenos Aires, collected by Mr. C. H. B. Grant, *presented by Mr. Ernest Gibson*: 161 birds from the Owen-Stanley Mountains, New Guinea, *presented by Mr. E. J. Brook*: 402 birds and 29 eggs from Aru, Kei, Ceram, and Amboina, *presented by the British Ornithologists' Union*: 153 birds from Australia, *presented by Miss Audrey Chirnside.*

The American Pheasant-Expedition.—In our last number (above, p. 578) we gave some particulars concerning the expedition in search of Pheasants of all sorts and descriptions, led by Mr. C. W. Beebe, Curator of Birds in the Zoological Park, which left New York in December 1909. The last number of the Zoological Society's Bulletin (July, 1911) announces the return of the party to New York in May last "after completing the circle of the globe," and gives an interesting account of the journey, well illustrated by photographs.

The expedition proceeded first to Ceylon, where six weeks were spent in studying *Pavo, Gallus,* and *Galloperdix,* and thence to Calcutta, where they were cordially received by Dr. Annandale, and examined the splendid collection of Phasianidæ in the Indian Museum. Thence it was not a far journey to Darjeeling, where they were lodged in a Dâk Bungalow on the Nepal-Sikkim frontier, and met with *Gennæus, Tragopan, Lophophorus* and other well-known forms of the Eastern Himalayas. Returning to Calcutta, the party proceeded to the Western Himalayas, visiting Gurwhal and Cashmere, and on their way back to Calcutta passed a short time in the plains, where Pea-fowl and Jungle-fowl were met with. From Calcutta they steamed 1700 miles south to Singapore, and established a second base in that famous emporium, whence they made excursions to Borneo, Sumatra, Java, and the Malay States. Thus they obtained information, and in many cases living specimens, of *Lophura, Acomus* and *Argus*, and, rarest of all, of the little-known wattled *Lobiophasis* of Borneo and even of the very rare *Rheinardtius*. In Burmah they penetrated 700 miles north, nearly up to the Chinese borders, and found some of the most interesting specimens of the entire trip.

Returning to Singapore the travellers took ship for a new sphere of action in China, where, after much toil and trouble, Eared-Pheasants (*Crossoptilon*) besides several species of true Pheasants (*Phasianus*) were obtained. The last field of work was Japan, where the birds were comparatively accessible.

The expedition reached New York on their return home on May 27th, 1911, after travelling fifty-two thousand miles, and spending seventeen months in their search for Pheasants, in which, we must all allow, they were wonderfully successful. Besides masses of notes and photographs, several hundred skins of the more interesting birds were brought home.

The Report of the National Museum, U.S.A., for 1910.—The principal accessions of birds in 1909–10 were from East Africa and Java. Next in importance was a collection from Polynesia made by Dr. C. H. Townsend during one of the early Pacific cruises of the steamer 'Albatross,' of which he was then the naturalist. It comprises 391 specimens and examples of about 85 species, many of which are new to the Museum or were previously represented only by old and faded specimens. The types of three species of Swiftlets (*Collocalia*) are included, and there is a good specimen of the rare Sandpiper, *Æchmorhynchus cancellatus*, which had been reported as extinct. Thirty-nine birds and one nest from East Borneo and the islands of the Java Sea, included a Pheasant, *Polyplectron schleiermacheri*, new to the collection; they were presented by Dr. W. L. Abbott. There were two contributions of birds from the island of Luzon, one of 64 specimens from Dr. H. C. Curl, United States Navy, the other of 33 skins and 2 eggs from Mr. D. B. Mackie, of the Bureau of Agriculture, Manila. Mr. Henry D. Baker, American Consul at Hobart, Tasmania, transmitted 24 Australian birds. Thirty-four Chinese birds, including a Pheasant, *Crossoptilon tibetanum*, were received in exchange from the Hon. J. E. Thayer. One hundred and six African birds, chiefly from Mount Ruwenzori, needed for comparison, were purchased.

The reserve collection of Birds was removed to the new building in August 1909. The eggs had been previously transferred, but were not permanently arranged until December of the same year. The overcrowding of the skins in the old building had been so great that it was found necessary to order immediately more than 70 additional cases to provide for a reasonable spreading of the collection, and soon after half as many more to accommodate the current accessions, including those from East Africa. Delays in securing all of the drawers and fittings for the new cases, however, prevented the completion of the arrangement of the specimens within the year.

Mr. E. C. Chubb.—We learn from the Ninth Annual Report of the Rhodesian Museum, Bulawayo, that Mr. E. C. Chubb, F.Z.S., has resigned his position as Assistant Curator and Zoologist of that Museum in order to take up the Directorship of the Durban Museum, Natal. The thanks of the Committee of the Buluwayo Museum to Mr. Chubb for his efficient work, and their regret at his leaving had been recorded on the Minutes.

Mr. G. L. Bates.—Mr. Bates, having paid a short visit to his friends in the United States this summer, has returned to his former residence at Bitye in the German Colony of Cameroon, and is continuing his collections in every branch of Natural History. As will be seen by his excellent paper (above, p. 581) his observations are quite original and in many instances very remarkable, especially as regards the tongue-spots in young birds.

New Inquiry on the Migration of Birds.—We learn from 'The Times' of September 4th that Prof. J. Arthur Thomson and Mr. A. Lansborough Thomson, secretary of the Natural History Department of Aberdeen University, have issued a circular drawing special attention to the work of the "Aberdeen University Bird-Migration Inquiry." The inquiry, as we know, aims at collecting more definite information on migration by the method of placing rings on the feet of a large number of birds, in the hope of hearing of the subsequent movements of some of them.

The rings are inscribed with the address "Aberdeen University," and a number (or number and letter combination) which is different in each case. The rings are to be placed on young birds found in the nest, or on any old ones that can be captured without injury. The rings, which are of aluminium and extremely light, do not inconvenience the birds in any way. The marking work is chiefly carried on in Scotland, notably in Aberdeenshire, but is not confined to that county. The inquiry has the support of Mr. J. A. Harvie-Brown, Mr. William Eagle Clarke, Mr. William Evans, and other Scottish ornithologists.

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